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Vermont Medical Monthly

Official Organ of the Vermont State Medical Society.

Vol. XVII, No. 1. Burlington, Vt., January 15, 1911 ONE DOLLAR PER ANNUM SINGLE COPIES 15 CENTS

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Don't make your office the resort for all of the town loafers, either during, or after, office hours.

Don't put off getting married until you have passed the thirty year mark, as you are liable to be "sot in your ways."

Don't tell your wife all about your cases, as she may not understand all the particulars and may tell the neighbors things which will act to embarrass you.

Don't treat patients on the street or in public places.

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Don't tell your patients what medicines you are giving, as the effect is all that they need know anything about.

Don't talk about your cases to disinterested persons. If asked about a patient, simply say that he is sick and either better or worse, but without particulars.

Don't come in close association with those of the underworld. Some of the smudge may rub off and your reputation will suffer.

Don't make the saloon your loafing place, for if you do not imbibe you may be accused of so doing if you hang about such places.

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Journal American Medical Association, January 22, 1910, Folio 261.

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A Lawyer's $800,000 Fee.—The attorney who defended F. A. Heinze, the "Copper King," in his trial for misapplication of the funds of the Mercantile National Bank, received a check for $800,000 for his services. If a physician had saved his life or that of one of his family, what would have been thought of such a fee?—*The Medical Council,* August, 1910.

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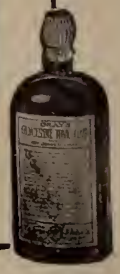
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Vermont Medical Monthly.

VOL. XVII. JANUARY 15, 1911. NUMBER 1.

ORIGINAL ARTICLES.

PATHOLOGY OF CRANIAL INJURIES.*

BY

B. H. STONE, M. D.,
Burlington, Vt.

Injuries to the cranium may be classed as those which are (1) local, involving parts exterior to skull only; (2) those accompanied by fracture only and (3) those accompanied by brain injury, with or without fracture.

The danger from wounds of the first class is due to infection and hemorrhage. The peculiarity of the structure of the extra-cranial tissues with the loose areolar layer between the aponeurosis and the pericranium, favors the rapid spread of any infection in this layer. Furthermore the return of a large part of the blood from the scalp through the diploic and emissary veins into the intra-cranial sinuses, makes the danger of cerebral infection from suppurating scalp wounds great. In a recent autopsy on a suspected criminal case, the subject, a child, was found to have a small infected scalp wound near the frontal eminence which involved an area of the sub-aponeurotica tissue not larger than a silver dollar with a secondary streptococci meningitis and encephalitis which had terminated fatally.

The scalp is richly supplied with blood from branches of the temporal, occipital and supra-orbital arteries. The first two of these are among the largest terminal branches of the external carotid and the last, a branch of the ophthalmic trunk of the internal carotid. This direct and rich blood supply while easily controlled by the surgeon, renders the danger from hemorrhage of unattended scalp wounds, great.

The blow which produces the scalp injury may at the same time it ruptures some of the important vessels, produce concussion, sufficient to render the victim unconscious long enough to bleed to death. Thus death in a recent homicide case occurring in this state, was produced by hemorrhage from branches of the temporal artery taking place during the unconsciousness of the victim. There were no cranial fractures or visible brain injuries and immediate surgical attendance would in all probability have saved the life of the victim.

*Read before Rutland Railway Surgeons.

FRACTURES.

Fractures of the bones of the skull are of themselves of less consequence than bony fractures in other parts of the body as there are no forces which tend to their displacement and it is probable that there are many cases of slight linear fractures which are never diagnosed and which give little inconvenience.

The significance of fractures of these bones depends upon the likelihood of injury to the brain either as a direct result of the blow producing them or secondarily, by the pressure of hemorrhages from vessels ruptured by this blow.

Cranial fractures are classed according to their location as fractures of the vault or fractures of the base and according to their character as linear fractures which are mere cracks without displacements; fractures by diastasis which are separations of sutures, comminuted fractures which separate portions of the bone, by intervening lines of fracture; depressed fractures where fragments of bone are driven below their spherical level; perforating fractures where portions of bone are lost.

Fractures of the vault are almost invariably produced by direct violence to the vault. while fractures of the base are produced as a continuation of fractures of the vault or indirectly by blows applied at the vault or other parts of the body as when a person falls violently upon the feet or buttocks, in which case the force is likely to be transmitted up the spinal column to the base. Linear fractures of the vault may be accompanied with very little injury to the brain substance but are dangerous as paths of infection, if compound, and from their likelihood, in crossing some of the branches of the middle meningeal artery, of causing a rupture of this artery, and resulting extra-dural hemorrhage. The branches of the middle meningeal fit tightly in grooves of the skull and it is almost impossible for the fracture to cross one of these branches without injury to the artery. Such hemorrhages are likely to be extra-dural and to produce their

symptoms immediately or remotely depending upon the size of the vessel ruptured. Extra-dural hemorrhage is usually well localized around the point of injury, thus these injuries *may* be accompanied with focal symptoms of a considerable definiteness.

If the blow be severe, and of a bursting character, as a severe blow from an object of considerable size or a blow produced by the body being thrown against some solid projection, the fracture is likely to be comminuted, and from this comminuted area, linear fractures are likely to extend around the skull into the base. If the fracture be anywhere on the parietal lobes, this line of extension is almost sure to take a definite direction, i. e., downward through the squamous portion of the temporal bone and into the middle fossa usually along a line parallel to the petrous portion into the middle lacerated foramen and thence the pituitary fossa, opening up the sphenoid sinus. The skull is weaker along this particular line than anywhere else and there is a decided and noticeable tendency of all vault fractures to send their linear prolongations in this direction. In the series of 25 cases of skull fracture which it has been my fortune to autopsy or see autopsied every one in which there were linear fractures at all have shown this characteristic. The force may be sufficient to extend this line of fractures into each middle fossa, actually breaking the cranium in two. It is needless to say that fractures of this extent are almost universally fatal. Aside from the direct injury to the brain from a blow of sufficient force to produce such results in the bony structures, this line must cross the anterior branch of the middle meningeal artery and may likely pass into the foramen spinosa and injure the main artery at its point of entrance to the skull and again the openings of the sphenoidal sinus are likely to give entrance to infection from the nasal chambers.

Another peculiarity of injuries of the vault is the extreme likelihood of fractures at a point diametrically opposite the point of injury. This is the well known fracture of contre-coup. Thus in a case of dynamite explosion, which will be detailed later, the force of the explosion was applied to the left malar bone and a fracture in the temporal region on the opposite side was found.

In heads which are poorly ankylosed, the fractures tend to follow lines of sutures and in this case, vault fractures follow the coronal suture thence the spheno-squamosal suture, finding their way as in the previous case, to the body of the sphenoid bone.

The commonly cited symptoms of fractures of the base-bleeding from the ear, can, of course, only take place when the ear drum is broken and then only from extra-dural hemorrhage, unless the dura and arachnoid are torn, in which case, not only blood but cerebro-spinal fluid escapes.

BRAIN INJURIES.

The injuries to the brain produced by blows upon the head may be described as injuries of contusion and injuries of compression. The compression is produced either by depressed bone fractures or by hemorrhage. The relation between the amount of skull injury and the amount of injury to the brain is by no means a constant one; severe cranial fractures may take place with little injury to the brain substance itself and a comparatively small amount of hemorrhage. Thus in the case of the dynamite accident previously cited, with a fracture of both orbital plates of the frontal bones and a fracture in the temporal region, there was no extra-dural or cerebral hemorrhage. And on the other hand, the brain may be severely bruised to the extent of rupturing numerous small arterial twigs with fatal results, without any fracture of the skull.

Contusion which is the superlative expression for what is commonly known as concussion, is an actual injury to the brain substance, made visible to the eye by hemorrhage from the smaller twigs of the cerebral arteries and softening of the brain substance.

In brain injuries, as in skull fractures, we are apt to find the maximum injury at a point diametrically opposite the point of application of the force. This fact, together with the co-related fact that force sufficient to produce brain contre-coup is almost sure to produce more or less molecular disturbance to the cerebral tissue lying between these points, prevent the occurrence of focal symptoms of sufficient definiteness to be of any considerable value in locating the injury. In the twenty-five cases mentioned above and from the analyses of which the point of the paper are made, *only one*—a case of slowly bleeding rupture of a middle meningeal artery twig—showed an injury which could possibly have given such focal symptoms, and in this case such a diagnosis was not made. I feel convinced that such symptoms are not to be expected or relied upon in any

case of cerebral injury. The mental symptoms in such cases must be confusing for the injury is almost always diffuse.

As an illustration I wish to cite the following cases:

Case 1—Man found in a river, partly in and partly out of water; jagged scalp wound on right parietal eminence, beneath this a comminuted depressed fracture, loosening a small triangle of parietal bone; from this, *a linear fracture extending downward through the squamous portion of the temporal and through the middle fossa, on a line just anterior to the petrous portion of the temporal and through sella tursica, breaking into foramen ovale and across tip of greater sphenoidal wing.* Much extra-dural blood in right middle fossa and evidence of brain contusion over area of comminuted fracture and *at the opposite diameter of the cranial cavity,* i. e., in left middle fossa; sub-dural hemorrhage in this fossa. Trachea and smaller bronchi filled with partially digested food, giving evidence of vomiting after injury.

Case 2—Woman fell down stairs and struck head and parietal region; died after two days of delirium. Autopsy showed no scalp lacerations but an extravasation of blood in right temporal parietal region. A linear fracture of the right temporal bone extending from parietal temporal suture *downward through middle fossa, anterior and parallel to petrous portion of temporal bone to the sphenoid at the foramen ovale;* much sub-dural hemorrhage along the line of fracture and in the middle fossa; *rupture of one of the large branches of the middle cerebral on left side and much hemorrhage into tempero sphenoidal lobe and the lobe much softened at this point;* linear fracture through orbital plates of frontal bones and hemorrhage into back part of the orbits.

Case 3—Injury inflicted by stone; man died five days after injury with pressure symptoms. Scalp wound over left parietal region three inches above margin of the ear. Fracture one inch long, running in an anterior posterior course; at right angles from this, *a linear fracture running downward through the squamousal portion of the temporal to external auditory meatus;* extra-dural hemorrhage in parietal and upper temporal region, spread out in rough circle two inches in diameter, clotted and partially organized. Small sub-dural hemorrhage.

Case 4—A man thirty years of age shot at comparatively close range,—four rods,—with a thirty-two-forty-six metal patched bullet, fired from a Winchester rifle. On autopsy there was found to be a jagged wound through scalp and skull one and a fourth inches above helix of left ear and four inches back, in the posterior inferior parietal region. An opening one-half inch in diameter through the mastoid angle of the parietal and radiating from this three fractures; one, passing upwards into the parietal and another *downward into and through the middle fossa, following a line parallel to the petrous portion of the temporal bone, passing through the greater wing of the sphenoid and across the body of the sphenoid,* and a third passing forward across the squamous portion of the temporal into the super-orbital plate of the frontal bone. On the right side, a portion of the temporal bone one-half inch in diameter lying one and a half inches above the external auditory meatus was fractured and lifted outward. In contact with this, a bullet was found. From this penetrating fracture, there radiated linear fractures, one upward into the parietal and one *downward into the middle fossa along the line described on the other side, into the middle lacerated foramen;* there was sub-dural hemorrhage; hemorrhage into the brain substance on the left side and extensive extra-dural hemorrhage in middle fossa of right side.

Case 5—A colored girl aged twenty-two years, found lying in bed with two gunshot wounds in head, afterwards found to have been produced by a forty-four Colt's automatic revolver, firing a metal-patched bullet. One bullet entered through the temporal surface of the greater wing of the sphenoid and emerged near the mastoid angle of the parietal bone. The other bullet did not enter the brain cavity at all. From the penetrating fracture of entrance, a linear fracture extended through the tip of the lesser wing of the sphenoid to the super-orbital plate of the frontal bone and thence upward into the coronal suture at right angles. Another crossed the spheno-squamousal suture and the petrous portion of the temporal bone. At the wound of exit there was a perforated fracture about the size of a half dollar. Radiating from this a linear fracture up into the parietal bone and *downward through the middle fossa into the middle lacerated foramen.*

Case 6—An Italian thirty years of age; shot with a thirty-eight calibre bullet from a thirty-eight calibre center fire, Smith & Weston cartridge, at a close range, within one foot. Bullet passed through left malar bone into the orbit, smashing in turn the malar, walls of the antrum, lacramal, orbital plate of the maxillary, ethmoid, palate, zygomatic, right pterygoid plate of the sphenoid and lodging behind the angle of the right jaw. The second wound entered the temporal bone at the upper margin of the spheno-squamousal suture and the bullet was found in the temporal lobe one-half inch from wound of entrance. From this wound of entrance, fractures radiated upward into the parietal and *downward through the middle fossa along the line of the spheno-squamousal suture to the middle lacerated foramen.* There was much extra-dural hemorrhage from the rupture of the internal branch of the middle meningeal artery.

Case 7—An Italian laborer was found with head in shallow brook near which he had been digging with a shovel; the shovel with which he had been working was missing. The place was on level ground where a fall could not have occurred. It was thought at first that the case was one of suicide; that the man had drowned himself, but on autopsy, there was found to be extravasation of blood in the scalp on the top of the head; extravasation of blood into the orbit showing externally on eyeball. On removing the scalp, there was found to be a *fracture by diastasis through the coronal suture to the temporal bone where the fracture was continued along the spheno-squamousal suture into the middle lacerated foramen.* There was a depressed fracture of the super-orbital plate of the frontal bone, involving also the ethmoid and a linear fracture from the middle of the super-orbital ridge back to the coronal suture; fractures of both plates of the frontal bone into the super-orbital sinuses and fractures of the posterior and anterior clinoid processes of the sphenoid. These fractures could only be explained on the supposition that a heavy blow had been struck the man on the top of his head with some flat object, probably his own shovel, producing the extravasation and the fracture extending into the middle fossa. The other basel fractures were *fractures by contre-coup.*

Case 8—Body found in river; lacerated wound of scalp in right parietal region, accompanied by linear fracture upward to middle line and *downward through middle fossa of the right side, parallel to petrous portion of the temporal, across the foramen ovale and into the sella tursica.* Extra-dural hemorrhage in right fossa and sub-dural hemorrhage in *temporal sphenoidal lobe of the other side.*

Case 9—Body found in brook; depressed triangular fracture of left parietal region; from apices of this triangle, linear fractures extended as follows:—from posterior angle backward and inward to lamboidal suture. From the anterior angle *downward through coronal suture, striking spheno-squamousal suture, opening this suture, breaking into the foramen spinosa and ovale to foramen laeerum medium and across body of sphenoid through sella tersica,* involving posterior clinoid process and opening sphenoid sinus; thence through right middle fossa and back to internal angle by the same course, entirely separating portions of the skull lying at each side of this line.

Case 10—Man who fell into the door of a saloon and was taken to police station with a diagnosis of acute alcoholism; death occurred within twelve hours. Autopsy showed a circular depressed fracture over super-orbital ridge on left side; super-orbital and nasal sinuses filled with blood. Sub-arachnoid oedema.—Insignificant skull injury, fatal brain injury.

Case 11—Man sixty-two years of age, injured by explosion of dynamite while standing over a stump which he was attempting to blow out with the explosive. I shall give a brief description of the symptoms of this case and the next as illustrating the point which I wish to make regarding the lack of relationship between extensive head injuries and brain injuries.

The left eye was completely destroyed and there was produced in place of the left cheek bone, a large cavity, going deep into the face but not connecting with the buccal cavity. There were several other cuts on the forehead. The lower lip was split in the middle and there were two punctures in the chin connecting with the mouth. The proximal phalanx of the ring finger of the left hand was badly broken and the distal end of the little finger was gone as far as the middle of the second phalanx. There were bruises and open wounds in the left arm, left leg and on the chest. The cavity below the eye contained what appeared to be parts of stump and sand. The man was conscious from the time of the explosion until his death, the fifth day after the accident. Immediately after the explosion he rose to his feet remarking that he had "got his this time." He said he could walk to the road a considerable distance. He vomited quantities of blood and particles of decayed wood and dirt for two days following injury. He complained very little of pain; was somewhat nauseated at times; had slight spells of delirium on the second day, usually on first waking. Pulse was sixty; respiration twenty-four on admittance to the hospital. Respiration varied from sixteen to twenty-two afterwards. Pulse went as high as one hundred and twenty on the third day. Temperature taken by axilla—highest point reached was one hundred and two. On November 5th, five days after the injury the patient commenced having clonic convulsions, usually of the upper extremities but also somewhat of the lower and showed evidence of slight episthotonos. This lasted about ten minutes, then gradually became tonic and expiration grew longer and longer and inspiration shorter and shorter. Systole became more marked and prolonged and when he died the heart stopped in systole, and the spasm suddenly relaxed. *Autopsy* on this man showed the left malar bone to be crushed and practically obliterated, the zygomatic process of the maxillary bone, pterygoid plate of the sphenoid and the whole floor of the orbit to be destroyed, cleaning everything to the base of the skull cavity and the skull cavity itself showed a linear fracture through left middle fossa (contre-coup) passing on a line at right angles to the long axis of the body, forward from the petrous portion through the squamous portion of the temporal and the greater wing of the sphenoid to the tip of the lesser wing; fractures of both orbital plates of the frontal across the bases of the lesser wings; no intracranial hemorrhages and little evidence of brain injury; a slight amount of sub-arachnoid hemorrhage at the tip of the left occipital lobe; thrombi of both internal carotid and vertebral arteries.

Case 12—A colored man while attending a horse, Nov. 27th, received a kick above the left eye inflicting a small scalp wound about one inch long. He was rendered immediately unconscious, in which condition he remained until his death. On the next day after the injury he was brought to the hospital; on examination blood was found in his ear but it was thought to have come from a scalp wound. The eyeballs were rotated to the right; the pupils reacted to light; urine and feces were passed involuntarily. There was no paralysis of the lower extremities. Patient was trephined on the second day and considerable amount of sub-arachnoid bloody fluid found under pressure. After the operation, the eyes turned back to normal. Patient was very restless and unable to take any nourishment. On the fourth day a lumbar puncture was made and bloody fluid found under pressure. After this withdrawal of fluid, patient was not so restless and was able to take little nourishment at different times. The pulse was at first fast and quite strong; at times it would become slower, but at the latter part of the illness was fast and weak. Respiration was at first about normal; later became shallow and rapid. Temperature was normal most of the time but at one time was sub-normal. Patient died on the sixth day without at any time regaining consciousness. The autopsy showed small scalp wound in the left frontal region and from this back to the temporal a flap loosened by the surgeon. Trephine opening in the left temporal region; *no skull fractures;* considerable fluid blood and bloody fluid beneath the arachnoid, over both hemispheres and base; evidence of many small hemorrhages from twigs of cerebral vessels in all parts of the brain. Evidence of considerable hemorrhage in the right temporal sphenoidal lobe (contre-coup). This patient died as the result of brain contusion with no injury to cranium, either vault or base.

The points I wish particularly to emphasize are (1) the tendency of fractures of the vault to extend into the middle fossa, causing extra-dural hemorrhage from branches of the middle meningeal artery; (2) the frequency of brain and skull injuries at points opposite the point of application of the force; (3) the comparative infrequency of definitely localized brain injury giving rise to definite focal symptoms; (4) the lack of relation between the severity of the skull and brain injuries.

ACUTE EPIDEMIC PARALYSIS (POLIOMYELITIS).*

BY

DR. C. K. JOHNSON,

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The recognition of epidemic poliomyelitis has been more widespread during the past few years than formerly. In 1881 a Swede, named Bergenbolz, was the first to recognize and describe an outbreak with sufficient accuracy to make it acceptable; since then epidemics have been reported with increasing frequency. An epidemic of 19 cases was reported by Dr. Caverly of Rutland, Vt., in 1894.

During the past ten years ending with 1909 there have been outbreaks reported from Norway, Sweden, Austria, Germany, Prussia and Holland. England and Spain having been more fortunate, only a few cases having been reported. Cuba reported an epidemic in 1907, the first to be reported from the tropics.

During the past five years ending 1909, there were 8,045 cases reported, the United States contributing 5,514 of this number or about seven-tenths of the cases. Prior to 1907 this disease was comparatively rare in this country, now, however, but few states, if any, have escaped.

Until very recently it has been a question whether or not it was an infectious disease, all attempts to produce the disease in animals by injection of fluid obtained by lumbar puncture having failed.

An interesting fact occurs in the New York report, only two cases occurred in negroes among 750 cases.

It was not until September, 1909, when Drs. Flexner and Lewis obtained the spinal cords of two fatal cases of the disease that a new light was thrown upon its etiology.

They used an emulsion from these spinal cords for direct injection into the brains of monkeys through trephine openings.

Their first inoculations were successful. These monkeys after the anaesthesia effects were apparently normal and remained so a variable number of days when they became paralysed. When signs of sickness did develop they generally came on rapidly, in some cases the monkeys becoming paralysed within one hour of the first appearance of symptoms. These symptoms and their method of onset correspond to those of poliomyelitis in the human being.

The spinal cords of these monkeys were used to inoculate a second series of monkeys with the same result. This tends to show that the virus may be transmitted almost indefinitely, Dr. Flexner having carried it to the twentieth generation and found it to be more active than in the first case.

Drs. Landsteiner and Popper published at about the time of Dr. Flexner's report, an account of successfully inoculating monkeys with the spinal cord derived from a fatal case of poliomyelitis; they employed the peritoneal cavity as the point of inoculation.

They failed, however, to inoculate other monkeys from the first series.

The incubation period in animals ranged from three to thirty-three days; the average being from eight to nine days.

According to Dr. Flexner's recent report this disease is undoubtedly caused by a very minute infectious micro-organism which readily passes through an earthen-ware vessel, e. g., a Cumberland filter, and is therefore a so-called filterable virus. Flexner says this is one of the most minute organisms known to cause disease and that it is doubtful whether it has actually been seen. The filtrate is very potent 1-1000 c. c. causing the disease in monkeys. This transmission of the disease from one monkey to another almost indefinitely would seem to prove poliomyelitis to be an infectious disease as no known disease can be transmitted through a series of animals, which is not caused by a living virus.

Dr. Lovett in the report of the Massachusetts State Board of Health in speaking of communicability says they have had cases of direct contagion from child to child and a number that appeared to be indirect contagion by a healthy carrier. The investigations by this board tend to show that the prevalence of the disease does not correspond to periods of diminished rain-fall, neither did the greatest number of cases occur at the time of highest temperature. The greatest number of cases did occur, however, during July, August and September.

The average death rate in 628 cases in Massachusetts was 8%, the mortality being greatest in cases over ten years of age, this reaching 20%.

*Read before Chittenden County Medical Society.

The disease is most common between the ages of two and three years. Several cases, however, have been reported over fifty years of age. This being an established fact, it would seem wise to drop the name of infantile paralysis. Dr. Ball of St. Paul has suggested the name of acute epidemic paralysis, which seems to me a good one.

Pathology.—The first exhaustive studies in the pathology of poliomyelitis was done in 1903, by Harbitz and Wickman during the epidemic in Norway and Sweden. This was followed in 1909 by the work of Flexner, Lewis, Landsteiner, Popper, Krause, Weisner, Levaditti and others.

These studies have removed poliomyelitis from the list of diseases of ill-defined origin. Macroscopically the lesions present in the cord and medulla of monkeys consist of congestion and hemorrhages into the grey matter, this is largely but not exclusively confined to the anterior horns.

The microscope shows the lesions more severe and diffused in the cord than in the brain and more marked in the grey than in the white matter.

No part of the cord or medulla escapes the effect of the virus.

The most active process is found at the lumbar, sacral and cervical segments of the cord. The meninges and cord show a diffuse infiltration of mono-nuclear round cells. These predominate around the vessels, especially within the adventitia with an odema of the perivascular spaces. The muscular coat and intima usually remain intact. The vessels are dilated and engorged and the capillaries of the cord and medulla may be twice their normal caliber. The meningitis is greatest on the anterior surface of the cord thence following the pia into the anterior fissure and along the sheaths of the central vessels.

Lesions are found in both the anterior and posterior horns and the commissure, but as a rule the anterior horns are most affected. There may be only minute foci of degeneration or complete destruction of the outer roots may occur.

The pathological processes depend primarily upon the vascular changes and secondarily to changes within the cells.

The central arteries in the anterior fissure are nearly always affected. These vessels furnishing the blood supply to the anterior horns probably accounts for the predominance of lesions in this location—the richness of the blood supply determining the severity of the lesions. Changes are found in the internal organs not unlike those found in other infectious diseases. The spleen is always congested and larger than normal. The kidneys and liver show some parenchymatous degeneration. One very interesting fact is that inflammation is found in Peyer's patches and the solitary follicles of the small intestine also in the mesenteric glands. These changes in the intestine taken with the early symptoms of diarrhea and vomiting led Strauss to inoculate a monkey subcutaneously with the mesenteric glands of a fatal case but with negative results.

Since then Drs. Flexner and Lewis have succeeded by introducing the glands intra-cerebrally.

Leiner and Wiesner introduced the virus into the stomachs of monkeys through a catheter. These monkeys became paralyzed, proving the possibility of infection through the intestine.

Symptoms.—I can hardly do better than give the classification of different types of the disease and the symptoms as given by Wickman.

I. Spinal poliomyetic form.—This is the recognized type described in text books where a sudden febrile onset is followed by paralysis of one or more limbs.

II. The ascending form.—In this type the paralysis ascends perhaps to the thorax, often causing death by involvement of respiration. This covers many cases of so-called Landry's paralysis, the true nature of which may be recognized in adults; while its course in children is not so well followed. To this type belong most of the fatal cases.

III. The bulbar form.—In this there is involvement of the cranial nerves, more often the facial, ocular and hypoglossal. The throat and larynx may be involved. This type may exist in connection with paralysis of the extremities.

IV. The cerebral form.—This type is not satisfactorily established, but Wickman believes the cerebral form may exist where a spastic paralysis is caused by a cerebral lesion.

V. The ataxic form.—A disturbance of motion not necessarily a pure ataxia much like Friedrich's ataxia, may result from infantile paralysis. The lesion in this form may be in the cerebellum, middle brain bulb or spinal cord.

VI. The polyneuritic form.—This is characterized by areas of pain and tenderness, making the diagnosis sometimes difficult from polyneuritis. This type is rather established by autopsy findings than by clinical observation.

VII. Meningitic form.—Pain and stiffness in the neck, with perhaps meningeal symptoms and opisthotonos characterize this form. This meningitic form is not infrequently confused with cerebro-spinal meningitis.

VIII. Abortive form.—Many cases occur in locations where infantile paralysis is prevalent, perhaps in the same families, where headache, fever, stiffness of the neck and other general symptoms may be present, but where the paralysis does not occur at all or is slight and transitory. This form is important in so far that it may be overlooked and a cause of spreading the disease.

This disease perhaps most often has an acute febrile onset, with perhaps sore throat and digestive disturbances, the patient being restless and irritable with a temperature of perhaps 103° F. to 104° F. Headache is common. Again there may be profuse sweating, hyperaesthesia and pain on motion.

Suspicion should at once be aroused if coryza, bronchitis or sore throat are associated with these nervous symptoms.

Dr. Lucas reports that during the prodromal and acute stage there is a marked or moderate lymphocytosis. There is also a constant marked leucopenia this disappearing with the acute symptoms.

The acute state or stages where sensatory disturbances predominate usually lasts for from three to possibly five or six weeks. Again some cases may run a mild course not unlike typhoid fever or rheumatism in symptomatology, the true nature of the case being apparent only when after four or five days paralysis develops.

In the Massachusetts report, 147 cases are tabulated giving the early symptoms present.

Fever 132; pain 110; tenderness 108; vomiting 67; constipation 72; diarrhea 38; headache 33; delirium 15; anorexia 15; irritability 24; stupor and restlessness 14; cough 8; dyspnoea 4; abdominal distension 7; pain in abdomen 1; jaundice 1; vertigo 2; double vision 2; difficulty or inability to swallow 4; difficulty in articulation 2; gastro-intestinal upset 2; diaphragmatic breathing 1; coryza 1.

The prognosis in 628 cases reported in answer to the question, "Has paralysis disappeared?" Yes 62; no 404; partially 61; death 51; not stated 50. The following figures are given as to the extent of the paralysis in 25 cases recovered: One thigh and leg 4; both thighs and legs 8; both thighs 1; one leg 1; one arm 2; one leg, arm and back 1; one leg and back 1; one thigh, leg, arm and forearm 1; one arm, forearm and cervical region 1; cervical region 4; indefinite staggering gait 1.

No doubt this disease will be diagnosed earlier if we remember its possible frequency, this however must be done to quite an extent by exclusion.

Immunity.—The serum treatment of poliomyelitis is at present in an experimental state. Dr. Flexner has found that the horse does not develop the immunizing principles within its blood. The rabbit and chicken have been tried with similar results. On the other hand the sheep seems to react more favorably but mildly. Let us hope that Dr. Flexner will be successful along this line of research.

Treatment.—Medicinal.—Rest in bed is considered very important during the acute stage. Elimination, counter irritation in the form of mustard plasters along the spine or an ice bag may be used. Bromide of sodium may be used to control the nervous symptoms. Nerve stimulants especially strychnine should be avoided during the acute stages, after the pain and evidences of acute disturbances have disappeared, strychnine given in gradually increasing doses is very useful.

Electrical.—There is abundant evidence to show that this affection responds with marked advantage to electrical stimulation.

According to Dr. Sinclair Tousey, the old saying that if reaction of degeneration has been present for at least three months, regeneration may not be looked for is totally false, as a considerable degree of recovery may be obtained after more than two years of complete loss of electrical excitability.

The involvement of ganglion cells is usually very irregular and there is much evidence to show that rarely all the cells in the nuclei supplying the paralyzed muscles are equally affected. Duchene was the first to point out that many of the fibers in the muscles affected may be spared and be capable of electrical stimulation with retardation of further degeneration. The larger the nucleus of origin of any group of muscles affected the more certain are there sound fibers and unaffected cells. Dr. Jones says that it is the exception for a muscle to be so completely destroyed by poliomyelitis as to be without any functional fibers and that these remaining fibers may be cultivated by persevering stimulation.

Massage is an important factor in the maintenance of muscular tone.

The direct or indirect currents may be used to stimulate the affected nerves and muscles.

Recently static electricity has been used with brilliant results in some of these cases. The method described by Dr. W. B. Snow and used by Drs. DeCraft, Johnson, Titus and others is as follows:

The patient is seated upon a chair or held in the arms of an attendant seated upon the static platform; the negative pole is grounded; a soft metal electrode about ten inches long by one and one-half inches wide is applied to the spine, this electrode being connected to the positive side of the machine. The sliding rods are separated gradually and in most cases a spark gap of from three to six inches may be used as the patient becomes accustomed to the treatment. This treatment is used about twenty minutes over the upper portion of the spine then over the lower spine for the same length of time; this to be followed by indirect and friction sparks. This method of treatment is used daily at first then at longer intervals. Dr. Snow says that this treatment should be used in all chronic cases and in all acute cases after the first two or three days. This modality produces an intense vibratory action, causing successive contractions with intervening intervals of rest, this tends to cause a dissipation of the infiltration and edema before degenerative processes occur within the ganglion cells.

Much benefit is reported from the use of the high power incandescent lights during the acute stage, this producing a general diaphoresis and coincidently by inducing an intense superficial hyperemia by which much blood is withdrawn from the engorged and congested cord.

REPORT OF CASES.

Case I.—R. S., male, aged 9 years. This boy was a robust lad in good health up to this time. His condition at my first visit was as follows:—He had complained of not feeling right for a day or two, when the night before he had chilliness and became hot and restless. He now complained of headache (especially frontal) some pain in back and down both legs, temperature 102° F. He was constipated and somewhat nauseated. This condition continued several days, the temperature ranging from 100° F. to 103° F. He developed some tenderness about the back and legs, complained of some pain when moved in bed; at about the seventh day the temperature became normal and he complained only of weakness. At about this time he began to complain of inability to handle his legs as usual and during the next two days paralysis developed in both legs and the right scapular region.

Case II.—B., female, aged 20 months. This girl had been having quite a serious time with summer diarrhea and was somewhat run down in consequence. She had recovered, however, and was apparently well until one morning her mother noticed she could not walk and sent for me, I found one leg paralyzed below the knee. She showed no tenderness or evidences of pain, temperature 99° F. by axilla.

Case III.—M., female, aged 2 years. This case was practically the same as No. I, in course and symptoms and it was thought that it might be typhoid fever. Widal test was negative. After about one week she developed paralysis of both legs and the right shoulder.

Case IV.—C. C., female, aged 3 years. This girl was quite healthy up to about June 1st, 1910, when she developed pertussis and had a very severe attack, coughing so that scarcely any food was retained. She became quite weak and lost considerable flesh. She had practically just recovered from her cough when she was taken sick August 1st, being feverish and did not eat. During the day she had vomited considerable. I saw her on August 2nd and found her temperature 103° F., skin hot and dry, tongue covered with a white fur, constipated, kidneys inactive, extreme restlessness, a slight harsh cough, some coryza, lungs negative except a few coarse rales. Her mother said that she had complained of headache all day. Diaphoretics and anodynes were given. Next morning her temperature was 102⅗° F., skin moist, had perspired freely, patient in a partial stupor, showed some internal strabismus in both eyes, some rigidity and retraction of neck, appeared to be very tender around neck when handled. During this day the child was practically blind. In the evening of the same day, morning symptoms were more marked, neck quite rigid, upon trying to flex the neck the pupils dilated and patient very restless. Patient swallowed with difficulty. Next morning, the 5th, condition remained as before except Kernig's sign present: Babinsky's sign absent. I made a diag-

nosis of cerebro-spinal fever and this was concurred in by consultant. I sent to Dr. Flexner for a supply of serum, but the next day this patient showed marked soreness of right arm, patella reflex absent, mind clearer, neck less rigid, strabismus less marked, temperature nearly normal. Within the next forty-eight hours she developed flaccid paralysis of right arm and right leg, later the muscles on the right side of neck and the upper left arm, also right scapula muscles became paralyzed, the head dropping helplessly upon the shoulders.

In none of these cases did I have a chance to try Dr. Snow's treatment early. In this case, however, I began this method of treatment in the third week, the patient being brought to my office in a carriage. Improvement was marked from the first and after a few treatments she carried her head quite well and walked up stairs. Practically no other treatment was used and even this was used very irregularly after the first few days. This case is not presented as a cure but certainly shows the benefit of this method even when not taken early. She now carried her head well, used left arm freely, also lower right arm some. The muscles of the upper right arm are somewhat atrophied, a few showing degenerative changes in the nerve supply.

Case II.—Was given perhaps four treatments in the second week with marked benefits, I have, however, been unable to have the treatments continued.

The question has been asked "How can a child stand such severe treatment?" In answer to this I will simply say that this little girl spoken of as Case II went to sleep in her father's arms during two different treatments, which does not indicate a very painful method.

The time of this paper does not allow me to take up the treatment of deformities by surgical methods.

The writer does not pretend to present anything original, rather he wishes to bring a review of recent investigations before you in the hope of a general discussion and perhaps benefit to us all.

75 Grant St.

THE druggist should understand that to refill a prescription is an infringement on the right of the physician, and that he is criminally liable.—*Dr. Barclay.*

THE USE OF BISMUTH VASELIN PASTE IN SUPPURATING TRACTS.*

BY

LYMAN ALLEN, M. D.,

Burlington, Vt.

In March, 1908, Emil G. Beck, M. D., of Chicago, published an article in the *Journal of the A. M. A.* (March 14, 1908), upon the use of bismuth vaselin paste in the treatment of fistulous tracts, tuberculous sinuses, and abscess cavities, reporting fourteen cases. Since that time the method has been employed by many physicians, and numerous reports of their results have from time to time appeared in the medical journals. Feeling that this treatment is of such value that it ought to have more general use, and finding by inquiry that many physicians in Vermont are not acquainted with it, I have thought that a short paper upon the subject with the report of a few cases might be of interest to the society.

The curative powers of this method were discovered by accident, when the paste had been injected into a psoas-abscess-fistula before taking an X-Ray for diagnostic purposes. This fistula, which had existed nearly two years, closed up entirely after this single injection and remained healed. That the successful result was not due to the combination of the X-Rays with the paste is proved by many similar cures by the paste alone without X-Ray exposure. The paste is used in various strengths, the usual one being bismuth 1 part; vaselin 2 parts. This is at times made more solid by the addition of from five per cent. to ten per cent. of white wax and the same amount of soft paraffin melting at 120° F. The vaselin should be heated to boiling and the bismuth then stirred in after removing the vaselin from the fire. It then cools to a soft paste and when used is warmed sufficiently to make it liquid and then well stirred. Water should be kept from the paste in preparation, and in its use better results seem to be secured when a syringe sterilized *dry* is used and when the sinus or fistula is wiped as dry as possible before the paste is injected. This, however, is not absolutely necessary, for good results have been obtained when the syringe has

*References, see *Journal A. M. A.*, Oct. 8, 1910, p. 1306.

been sterilized by boiling, and it is obvious that many deep sinuses such as those from a psoas abscess can not be wiped dry throughout their extent before using the paste.

The treatment resembles in certain ways the use of iodoform-emulsion injections, or the use of bone wax or sterile bone chips, but the results seem to show its superiority over these older procedures. Some investigators have claimed equally good results when paste minus the bismuth has been used, or when iodoform has been substited for the bismuth, and further investigation may show that there are better combinations than any so far reported. However this may be, I feel that in bismuth-vaselin paste we have a remedy of great value in a wide range of cases, many of which have in the past been most difficult to heal. Indeed I feel that we know of no other method which will so rapidly cause suppurating tracts to heal up, and I do not hesitate to make use of the paste to the exclusion of drainage tubes or strips in all sinuses after a good layer of granulation tissue has formed.

It is evident that the paste is sterile when made, since the bismuth and the other ingredients if any, are stirred into the vaselin at or near the boiling point, and it is easy to keep it sterile.

That there is some danger from the use of this paste is shown by reports of a few cases of bismuth poisoning, at least one of them fatal, where large amounts of the paste have been used (six or eight ounces at a time) but this must be a rare complication, for many men report long series of cases without accident. If the total amount of bismuth used is not high, I can see no more likelihood of trouble than from the same amount used by the mouth; except, of course, that the drug is retained longer in the tissues than in the alimentary tract.

Method of use. The sinus is usually wiped out as dry as possible. No irrigation is ever used. The skin around the sinus is wiped off with alcohol; the sterile syringe is filled with the warm liquified paste and then this is slowly injected, using only force enough to carry the paste to the depth of the sinus. The opening of the sinus should not be blocked completely, for undue pressure causes pain, distends the sinus unnecessarily, and may push the paste out into healthy tissue as happened in one of my cases. The opening is then covered with sterile gauze and an ice bag may be applied to hasten the setting of the paste. This is frequently not necessary. It is neither necessary nor advisable in the majority of cases to inject the sinuses daily. If there is much discharge and much paste is found in the dressing it will be necessary to inject more frequently than when opposite conditions prevail. Sometimes one or two injections effect a cure. An injection every three to five days is perhaps the average.

The method seems to be of the greatest service in the chronic (tuberculous) cases—those of years' standing, but it has done wonders in acute cases of ordinary pyogenic infection.

As to the reason why these injections result in cure there is not general agreement. Bismuth is not a powerful antiseptic (nor are vaselin, white wax, or paraffin) but the bacteria in the discharge from the sinus, quickly lessen in number, being found largely *in* the leucocytes, instead of free in the discharge, and soon disappear. It seems that bismuth has some chemotaxic action, drawing increased numbers of leucocytes to the infected area or stimulating the leucocytes to increased phagocytic activity. This, I believe is part of the reason for the good results. Then the paste solidifying in the sinus, acts as a splint to hold the parts at rest and also acts as a scaffold to bridge the granulation tissue across from side to side. It also forms a plug preventing infection from without.

The very common practice of irrigating sinuses with watery antiseptic solutions is certainly a mistake. This means not only peroxide which, of course, must never be put into a sinus on account of its foaming and expansion, but all watery solutions whether normal salt, phenol, boric acid, bichloride, or other. Do not irrigate the sinus. It does harm, not good. If you feel that you must do something to the sinus, wipe it out carefully with alcohol, or tincture of iodine. Irrigating fluids are in part at least, left in the sinus and tend to macerate the granulation tissue forming the walls, until those walls, if we could see them, would look like the ordinary chronic leg ulcer after it has been treated for days with wet dressings—granulations large, flabby, opalescent, unhealthy. Such irrigations do much more harm than good. When we have a good covering of granulation tissue, there is practically no absorption of toxins. Injections may so distend the sinus or

cavity as to force germs or pus out into the surrounding tissues, and so extend the process. At best, they prevent the rest which is so necessary if nature is to do her work easily. The paste secures this, keeps the granulations from being water-logged; stimulates the formation of granulation tissue (or at least does not hinder it), stimulates the leucocytes in their phagocytic activity and hastens the disappearance of bacteria from the discharges. It does not dam back the pus for it is not stiff enough for this. When the purulent discharge ceases, and only a little watery discharge remains, the stiffer paste with white wax and paraffin will be found rather better than the softer variety.

These injections, it is said, should not be used in intra-cranial sinuses or those opening into the gall-bladder or urinary bladder. When bone bared of periosteum is at the bottom of the sinus, I have seen it rapidly recovered with periosteum and the wound heal solid without loss of bone. If there is *some* dead bone in the bottom of the sinus, it sometimes is absorbed without trouble and sometimes causes a re-opening of the sinus making it necessary to remove the sequestrum. But I am sure that in many cases, there would be little or no real dead bone at the bottom of the sinus if we had not delayed healing by our injudicious use of watery irrigations.

Dr. Joseph C. Beck of Chicago (*Journal A. M. A.*, Jan. 9, 1909,) reports using this paste in the treatment of suppurations of the ear, nose and throat (319 cases with good results in 87%). He used it in abscess of the mastoid, middle ear, antrum, frontal, ethmoid, and sphenoid-sinuses, and the throat. He says: "Judging from the manifold varieties of pathologic conditions in which I employed the paste, one may be led to believe that my enthusiasm has carried me too far and that I am trying to apply the bismuth paste as a panacea for all ills. I acknowledge that I am enthusiastic but I have never employed a treatment with as much satisfaction as this one."

In a paper read before the International Congress on Tuberculosis, Sept. 28th, 1908, entitled "The Surgical Treatment of Tuberculous Sinuses and Their Prevention," Dr. Emil Beck reported one hundred and ninety-two cases treated by the bismuth-vaselin method of which sixty-four per cent. were healed; twenty-eight and one-half per cent improved; six per cent unchanged; one and a half per cent died during the treatment or later. These cases included osteomyelitis with sinuses, empyema, and tuberculous lung abscess, suppurative sinuses of the head, sinuses following tuberculous glands, rectal fistulae and tuberculosis of the kidney with sinuses.

Dr. John B. Shober of Philadelphia, *Annals of Surgery,* May, 1910, p. 714, reports five cases, all chronic tuberculous sinuses and all satisfactory.

My own cases are briefly as follows:

Case 1. Mr. R. Cellulitis of hand and forearm, pus burrowing beneath all tendons in palm of hand and under the annular ligament. Healed slowly with profuse discharge of pus and sloughs for eight weeks. Much pain. One hour after the first injection of bismuth vaselin paste, the hand was much more comfortable; sinuses closed in two weeks.

Case 2. Mr. B. Compound comminuted fracture of humerus and scapula, gun-shot wound, badly infected; used guaze soaked in iodoform emulsion for a time. Severe iodoform rash. Changed to bismuth vaselin paste; wound closed in rapidly. Later a piece of necrosed bone had to be removed and the sinus closed again with the use of the paste.

Case 3. Mr. G. Superficial suppuration between skin and deep fascia following a gastro-enterostomy. Small incision made to let out the pus, and the cavity filled with bismuth paste. This healed rapidly and it was not necessary to reopen the skin incision for any distance.

Case 4. Mr. F. Subcutaneous suppuration in a fat, flabby man operated upon for double inguinal hernia. One stitch removed at upper and lower end of incision, pus carefully drained out and cavity filled with bismuth paste; healed solidly after a few injections. In this case a hard mass developed above the outer end of the incision near the twelfth rib; was never red nor tender. I think I used too much force in the injections and that the paste passed up into the subcutaneous fat and stimulated the formation of fibroid connective tissue.

Case 5. Miss C. Ulcer of rectum, with undermining of mucous membrane; bismuth paste used without any success, save lessening pain. It seemed impossible to keep the paste in position.

Case 6. Mr. P. (Dr. McGinity's case) seen in consultation. Numerous sinuses around old

tuberculous hip joint of thirty-two years' standing and many operations. Injection of bismuth vaselin paste entirely closed all sinuses in two months. They remained healed for two and a half months and the hip felt perfectly well. After heavy muscular strain, another abscess formed and was opened. Paste again used and hip is comfortable but has not entirely healed.

Case 7. Miss D. Patient fell and drove about two and one-half inches of lead pencil into her thigh. Thought nothing of the hurt. Six days later, a small piece of wood worked out and then the pencil was found much to her surprise. The sinus was painted with tincture of iodine and filled with bismuth paste; healed rapidly, practically without suppuration.

Case 8. Mrs. L. Large cyst apparently in omentum, in a case of malignant disease. Very profuse serous discharge; paste injected daily, commencing about two weeks after operation; cavity closed in rapidly; discharge lessened slowly; daily injections were necessary on account of the paste being washed out by the profuse discharge; no pus ever seen in the discharge.

Case 9. Mr. S. Osteomyelitis of inferior maxilla—staphylococcus. Bismuth vaselin paste injections begun a few days after liberating the pus; large area of bare bone along the lower border of the jaw; healing nearly complete in three weeks without loss of bone.

Case 10. Mrs. F. Amputation at knee joint for sarcoma. Sinuses for drainage failed to heal until bismuth paste was used when they slowly closed.

Case 11. Miss L. Sinuses in abdominal wall of three years' standing; scar showed malignant degeneration and had been repeatedly excised. Sinuses remained which would partially close, cause pain, and re-open, or be opened about every two weeks. Closed up with use of bismuth and iodoform emulsion equal parts and remained so for about a month when the patient had measles and the sinuses re-opened.

Case 12. Mr. K. and Case 13. Mr. R. Pilonidal sinus.

Case 14. Mr. L. Abscess of face; to lessen scar a very small opening was made; about two drams of pus gently expressed, and cavity filled with bismuth paste; closed after four injections; practically without scar.

Of twenty-nine other cases where the paste was used, at the Fanny Allen Hospital, including fecal fistulae, empyema, stitch abscess, suppurating sinuses, compound fractures, etc. (no tuberculous infections) in twenty-seven, the healing was more rapid than is usual under other forms of treatment only two or three injections being required in some cases. Of the other two cases, one (a case of fecal fistula and general peritonitis) died, after six weeks, from gradual failing of strength without symptoms of bismuth poisoning; and the other, a vesico-vaginal fistula where the paste was used on a tampon, was not improved.

A good way to handle the paste is to have it mixed and put up in collapsible tubes, then a sufficient amount can be squeezed into the sterile syringe which is then heated sufficiently to melt the paste. This keeps the paste sterile and is easily transported. A tip may be fitted to the collapsible tube and the whole warmed when used, doing away with the necessity of having a syringe.

CONCLUSIONS.

1. The use of watery solutions in sinuses is unscientific and often hinders nature's efforts at cure.

2. The use of bismuth vaselin paste promotes the healing of sinuses and is without danger unless very large amounts are used.

3. It fulfills the indications of stimulation of the granulation tissue, removal of bacteria from the sinus, prevention of infection from without, and local rest.

4. It is simple and easy to do; is a painless operation and relieves pain in the sinus.

5. It is applicable to the treatment of practically all suppurating tracts, both tuberculous and pyogenic.

When the patient is ready for oxygen inhalations, we usually think of him as being about ready for the undertaker. In cases of cyanosis and dyspnea it is often of avail if the general vital powers are not too near dissolution. Observers have reported that the gas when used per rectum has given very gratifying results and that this method proves less annoying to the patient.

THE TREATMENT OF ECLAMPSIA.*

BY

DR. E. J. MELVILLE,

St. Albans, Vt.

In order to treat eclampsia intelligently, we must first endeavor to comprehend the factors underlying its etiology.

While eminent scientists hold different views of this subject, it is safe to say that more light from future investigation is needed.

Quoting Hare, "The cell activity of mother and foetus produces excrementitious substances which are poisonous to the whole organism unless they are voided or made harmless by the excretory organs."

The organs in the child-bearing woman are often inadequate to the disposal of the effete material from the maternal and foetal bodies.

Consequently, poisons, of a nature not yet demonstrated, are stored up in the maternal blood until, by cumulative action, their presence is manifested by the eclamptic seizure and other symptoms. The convulsions are probably the result of an acute cerebral anaemia brought about by violent contraction of the arterioles, possibly by direct irritation of the brain substance or perhaps by the emboli of giant cells from the placenta, described by Echinard. As a result of intense muscular action the circulation is interfered with, and blood is determined into non-muscular regions, as the brain, lungs, kidneys and like organs, to such a degree that the congestion of these parts becomes dangerous, leading to apoplexy in the brain, oedema in the lungs, and often a complete abrogation of renal function.

The treatment of the disease may be summed up in a few words. We must first eliminate the poisons from the blood, by the different means to be hereafter considered.

Secondly we must exhibit drugs to diminish nervous sensibility and lessen muscular power, in order to reduce the convulsions in vehemence, duration and frequency.

Lastly we must endeavor to save the infant where possible, but never at the risk of the maternal life.

Right here a moral element comes in.

Is it justifiable to sacrifice one life to save another?

This problem is so complex, that I merely mention it "en passant," but will not take up the time of this society to discuss it here. Elimination may be best carried out first by bloodletting. By this means we perform a double service to the patient, where there is no contraindication for such a procedure.

We eliminate a certain quantity of poison with the blood and at the same time relax the muscles.

Simultaneously we may employ means to produce diuresis, diaphoresis and catharsis.

A rubber sheet should first be placed on the bed and over drawn a warm dry blanket.

Blankets are then wrung out of as hot water as can be borne by the hands and placed upon the dry blanket. Into these the patient is rolled, the dry blanket tucked over the hot moist ones and over all the rubber sheet is folded, in order to keep in the moist heat. If possible the patient is made to drink a pint of hot water and an ice-cap placed to the head. At the same time to encourage diuresis and catharsis, high enemas of normal salt solution may be thrown beyond the internal sphincter, by a long rectal tube. This latter is a life-saving measure far superior to hypodermoclysis, and without any of the unpleasant features of the latter.

MEDICINAL TREATMENT.

Do not waste time in the exhibition of many remedies in this disease. Have a definite purpose in view, and reach that purpose by pushing your drug to its physiological limit as quickly as possible. Always remember you must get the physiological effect before you get the poisonous effect, and that small doses are worse than useless, because they waste precious time and give a false security that you are doing something, when in reality the patient is receiving no effect whatever from the drug. If the stomach has lost its absorptive powers or if the remedies are rejected desist from stomach medication at once and begin rectal or hypodermatic medication. It must not be forgotten, that drugs administered per rectum must be given in approximately double the dose as when given by the stomach, that their absorption is slower, that they should be preceded by a preliminary cleansing and that the rectum soon becomes in-

*Paper read before the meeting of the Franklin County Medical Society, Sept., 1910.

tolerant to medication or feeding. The patient for obvious reasons is placed on the right side, the hips elevated and the head lowered. Begin the treatment with a calomel purge of from 4 to 8 grains, followed in 6 hours by a saline. This performs a double purpose. It works as an eliminative and as a revulsive. Some authorities prefer a drop of croton oil or one-fourth grain of elaterium. With these drugs I have had no experience.

Where elimination by the intestines is urgently needed, perhaps the best drug is eserine or more properly speaking physostigmine sulphate in dosage of from 1-50 to 1-100 of a grain, hypodermatically. The therapeutics of this drug depend upon its production of an increased secretion of the gastro-intestinal mucous membrane and thereby increasing peristalsis. It also has an independent peristaltic action. Although pilocarpine is under the ban with many writers on this subject on account of its depressing effect upon the heart, I have yet to see any ill effects from its usage. I have found it useful in several ways, by removing the strain on the kidneys; by eliminating the uraemic poison; by decreasing the inflammatory condition in the kidneys by lowering the blood pressure, and lastly for its eliminating effects as it has no equal in increasing the secretion of the skin and kidneys, as well as the gastric, salivary and lachrymal glands. The dosage in cases of pulmonary oedema, with degenerative atropy, etc., is 1-12 of a grain repeated every 20 minutes until effect, which lasts as a rule 2 or 3 hours.

In cases where the eclamptic seizure was followed by great distress of mind and an inability to sleep, I have seen excellent results, from the exhibition of 1-30 grain of apomorphine, hypodermatically, given for its soporific and relaxing effect.

Iodio-salicylate of theobromine or "diuretin" is useful in eclampsia, for its diuretic qualities and for the favorable effect it exerts upon oedema of the body and extremities, by its property of stimulating the secreting structures of the kidneys. It also slightly increases the muscular power of the heart. Dose in 24 hours one to two drachms, given in 20 grain capsules. Digitalis whether exhibited as digitalin or the fresh infusion of Allen's English leaves is too well known to need any description here, but in a spirit of argument I might say, I have never had any result good or bad from this drug when used for the relief of dropsy, in this or kindred diseases.

Veratrum viride acts chiefly by its depressant effect on the motor tracts in the spinal cord, but if given at all it should be exhibited in massive doses, as much as 20 to 30 drops by mouth or one-half the dose hypodermatically. The action of chloral and bromide is too familiar to you all to need more than a passing mention. The best authorities prefer chloroform to ether as an anesthetic, as ether is slower in action, congests the brain and irritates the kidneys. The anaesthetic should be started as soon as the eye symptoms warn us that a seizure is imminent and continued while we are endeavoring to empty the uterus. In short summing up the medicinal treatment, I might say get all the excretory organs at work to eliminate the poison which causes the convulsion, give anti-spasmodics to prevent undue contraction, spasm and rupture of the vessels, in the vital organs and do these two things as rapidly as possible.

SURGICAL TREATMENT.

Where after careful auscultation we fail to detect the foetal heart-beat or for other good reasons we are satisfied that the child is dead: where the woman is at or nearly full term and where the medicinal and other treatment have failed to prevent the spasms from recurring, then we must resort to means which will bring on labor.

A large rectal soft-rubber bougie passed up into the uterus, a soft pack of sterile gauze placed in the os uteri and vagina, either with the bougie or independent of it, suffices usually to bring on the pains, in from 12 to 36 hours. In cases of great urgency, "accouchment force" must be practiced, by dilating the os with the fingers or Barnes bags. With the os fully dilated, delivery is usually not difficult. It is perhaps superfluous to say that all surgical treatment must be done under the most rigid asepsis.

AFTER TREATMENT.

The after treatment of a case of eclampsia need not differ materially from the after treatment of any other puerperal case, except that all work possible should be taken from the kidneys, until their powers of excretion have again

become normal. Lactation should be shortened, by weaning the child after the first flow is over, an easily assimilated nutritious diet ordered, rest in the open air when possible, a mind free from care, with one of the good ferruginous tonics usually suffices to restore the patient to her normal condition in 2 or 3 months. It must not be forgotten that a seizure may take place weeks after delivery, following some indiscretion in diet.

PREVENTATIVE TREATMENT.

Perhaps the most important part of the treatment of this affection, to use a Celticism, is to prevent it from occurring. In many cases this is impossible as the first time the patient is seen by us is when she is in convulsions. The laity seem to stand in need of a good deal of educating, as many of them firmly believe yet that it is no more difficult now to bear children, than it was 40 years ago. On the altar of this fetishism many useful lives have been sacrificed.

It seems at times utterly impossible to explain, especially to women who have borne large families that this particular time she must do thus and so in order to bring this particular child to full term. Many times the patient herself will be found tractable enough but scoffed by some old wiseacre, she neglects the physician's orders, with disastrous results. I remember one case in particular, whose urine I found highly albuminous at the 5th month, who would follow directions faithfully until she had a visit from her mother who scoffed and jeered at these newfangled ideas. She had a dozen babies and her legs bloated and she had dark spots before her eyes and all that but she did as she pleased and was all right when her children were born. Even when this young woman was in a comatose condition, from which by the way she never awakened, the old lady patted me on the back and said: "Let her sleep doctor, I always slept for an hour or two after my babies were born!" It is our custom, in this city, where possible to have our patients engage us at the earliest symptoms of pregnancy. It is a rule here to refuse cases upon which we have not been engaged, until labor has begun. I might say that this rule is broken, when the stranger has $10.00 in plain view. It is unnecessary for me to take up valuable time in going over in detail all the different factors in the prevention of eclampsia.

The diet should be regulated, indolent habits corrected, the excretory organs must if sluggish be made to do their duty and a careful analysis of the urine made at least once a week. Consultation should be called as it is a nice question to decide just when to interfere with gestation. It must not be forgotten that patients whose urine is highly albuminous pass through labor without any trouble and in other cases where scarcely a trace of albumin is present, convulsions occur. I never feel alarmed when a good quantity of urine is secreted, even if albuminous.

TREATMENT OF COBRA-BITE.—The cobra is the most formidable of poisonous serpents, for its bite is considered to mean certain death, the action of its poison being terribly rapid. The method of preparing an antivenomous serum was discovered some time ago, and it subsequently occurred to M. Dastre, a professor at the Sorbonne, that in a case of cobra-bite means might be found for retarding the action of the poison until the serum could be administered and sufficient time allowed for it to produce an effect. Speaking on the subject at a meeting of the Academy of Sciences, held on July 4, he said that the deadly influence of cobra poison was exerted on both the respiratory and the circulatory systems, a physiological fact which led him to presume that in a case of cobra-bite artificial respiration might prolong the interval of resistance offered by the victim's organism to the action of the poison. Further investigation showed that in rabbits a dose of poison which ordinarily proved fatal in 25 minutes required nine hours for the fatal effect when the animal had been treated by artifical respiration. He therefore recommended that artificial respiration should be employed immediately after a person had been bitten, and that antivenomous serum should be injected as soon as possible. The serum required an hour or two for the production of its effect, and the artificial respiration ought to be continued without interruption during the whole time.—*Lancet,* July 16, 1910.

LACTIC ACID BACILLI IN GONORRHEA.—Watson (*British Medical Journal,* 1910, No. IV) advocates the use of sour milk injection in gonorrhea in woman. He has obtained excellent results in a number of cases.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D.,
B. H. STONE, M. D., } .....*Editors.*

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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

BURLINGTON, VT., JANUARY 15, 1911.

EDITORIAL.

We wish to call special attention to the announcement of the Census Bureau of the issue of a physician's pocket reference to the international list of causes of death. The red tape involved in the careful reporting of vital statistics is without question irksome to the individual practitioner and too often we fear he fails to appreciate the importance of it. The Census Bureau is to be commended in their policy of making the reporting of these statistics as easy as possible. At best mortality returns must be full of errors as they depend upon the often faulty diagnosis of attending physicians, but the inaccuracy arising from a careful nomenclature can be remedied to a large extent and to this purpose an international commission for the revision of the classification of diseases and causes of death was called by the Government of France at Paris in July, 1909. "The Census Commission was composed of Dr. Frank P. Foster, chairman of the committee on nomenclature of diseases of the American Medical Association; Dr. Wilmer R. Batt, State registrar of Pennsylvania, chairman of the committee on classification of causes of death of the American Public Health Association, and Dr. Wilbur, more especially representing the Census Bureau. Twenty countries participated in the work of revision, and other countries employ the classification preferably known as the International List, or have adopted it for use in the immediate future. Among the latter are England and Wales, Scotland and Ireland, which means its use by all the British colonies, some of which (Commonwealth of Australia and Canada) already employ it. Thus practical agreement in this most important and fundamental feature of mortality statistics is insured among all the English-speaking and Spanish-speaking countries of the globe, besides Belgium, France, Holland, Japan, and many other countries." With better laws making possible more post-mortem examinations on doubtful cases, the reliability of our mortality statistics will increase. The importance of correct vital statistics can not be too strongly emphasized. They are of great importance as a method of sanitary book-keeping, as a stimulus to hygienic reforms, as an indication of the efficacy or failure of these reforms and as a means of making obvious and offensive, disease centers, and thus forcing upon communities hygienic improvements. It is this purpose of these statistics which is commonly considered but of equal if not greater importance, is the legal value of correct registration of births and deaths. The protection of property rights and succession of individuals is closely bound up in such correct registration. The fact that the United States is behind every other civilized country of importance, is a condition which reflects gravely on our civilization and can only be accounted for but hardly excused by our comparative newness

among the nations of the world. It is a fault toward the remedy of which every effort should be made.

Of particular interest in connection with the recent propaganda for fresh air in the prevention and treatment of the respiratory diseases is the observation made by General Sherman during the Atlanta campaign in 1864 and printed in the December 31st number of the *Journal of the American Medical Association.* These observations appear in a letter written by General Sherman to his wife. "It is a general truth that men exposed to the elements do not catch cold, and I have not heard a man cough or sneeze for three months; but were these men to go into houses, in a month the doctors would have half of them. Now the doctors have no employment." The tardiness of the medical profession to make practical application of such phenomena which has always been available to careful observers, is an example of the extreme conservatism of our profession and its hesitancy in leaving the trodden paths of therapeutics. That such observations should be made and commented on in the height of a strenuous campaign speaks well for General Sherman's acumen.

The last month of 1910 was saddened by the death of two of America's most distinguished physicians, Dr. John C. Monro, and Dr. John C. Da Costa.

Dr. Monro was particularly well known in New England. His surgical clinic at the Carnegie Hospital Institute in 1903 has acquired a high rank among the surgical clinics of the world. His skill as an operator was unsurpassed and his quiet, unassuming personality had won him the personal regard of all who knew him. His early death at the age of 52 years can be regarded as nothing less than a calamity to the profession which he so splendidly represented.

Dr. Da Costa is known largely in New England by reputation as a gynecologist in which speciality he had a high rank.

The following announcement explains itself. We wish and surely expect all success for the new journal. Dr. Macphail's experience will be of great value in the new work.

Montreal, November 25, 1910.

Gentlemen:—

We beg to notify you that complying with an agreement made between the Canadian Medical Association and the Shareholders of The Montreal Medical Journal Company, this publication will make its last issue with the current December number.

This agreement is entirely a friendly one. The Association having been recently re-organized, proposes to extend its membership to include, as far as possible, every Medical Practitioner in the Dominion of Canada. Following out this scheme, it was considered an essential that the Association issue and control a monthly medical publication. The proprietors of *The Montreal Medical Journal* are interested in this new movement, holding some of the principal offices in the Association, and to assist the new journal it was proposed to discontinue the one they are now interested in, namely *The Montreal Medical Journal,* and in this way cooperate with, and assist, as far as possible the new publication.

It was also essential to this sheme that a competent Editor be found to conduct the affairs of the new publication, and as Dr. Macphail who for many years has had editorial charge of *The Montreal Medical Journal* was the universal nominee for the position, and as he refused to consider any advances by the Association so long

as his confreres in *The Montreal Medical Journal* wished him to continue in charge of their publication, it became a matter of consideration with the Canadian Medical Association, upon what terms the services of the Editor of *The Montreal Medical Journal* and the discontinuance of its publication could be obtained.

A satisfactory contract has been made, one of the conditions of this contract being that should the policy of the new publication not fill successfully the field it is intended to, the proprietors of *The Montreal Medical Journal* may withdraw from the agreement and continue their publication, should they so desire it.

As *The Montreal Medical Journal* has had a successful career and is still doing work satisfactorily, both to the medical profession and those financially interested in the undertaking, you will appreciate that its discontinuance is largely a matter of concession on the part of its Shareholders (who are medical practitioners) they having a greater interest in the success of the broader movement as apprehended by the Canadian Medical Association, than their personal interests in the publication of *"The Journal."*

Among the many contributions of books to the Medical College library is one presented by Dr. W. R. Bell of Ottawa, on Surgery, published in 1654 by Peter Lowe, Scottishman Doctor in the faculty of surgery at Paris, and ordinary surgeon to the French King and Navarre.

This is a very interesting book and it has occurred to us that it would be of interest to the readers of the VERMONT MEDICAL MONTHLY to have quotations from this book in the MONTHLY.

We have arranged to have something from this work each month during the year. We trust that it may not only be of interest to our readers but also give them some insight into the stupendous work that has been done to bring medicine where it is today. And when we consider how little we know today about some things in medicine we naturally wonder how the physicians of two centuries hence will look upon the status of medicine as it was in the twentieth century.

The title page of this book reads as follows:

"A discourse of the whole art of Surgery. Wherein is exactly set down the definitions, causes, accidents, prognostications and cures of all sorts of diseases, both in general and particular, which at any time heretofore have been practiced by any surgeon, according to the opinion of all the ancient professors of that science.

Which is not only profitable for surgeons, but also for all sorts of people; both for preventing of sickness, and recovery of health.

Whereunto is added the rule of making remedies which surgeons do commonly use, with the presages of Divine Hippocrates."

From a chapter on surgery in general we find the following:

"How many operations useth the surgeon most commonly?

Five.

Which be they?

The first is to take away that which is hurtful and superfluous, as to take away tumors against nature, lups, rankers, warts, and such like; to draw the water out of the hydroptckes; to take away a sixth finger or toe; to draw forth a child, being dead, out of the mother's womb; to cut a leg being gangrened or mortified and such like. Secondly, to help and add to nature that which it wanteth as to put an artificial ear, nose or eye, a hand or leg, a platten in the roof of the mouth which is useful to those who by the Spanish sickness or like diseases

have the roof of the mouth falling as is set down in my treatise on the Spanish sickness.

The third, is to put in the natural place that which is out of place as to put in guts, the caul or net that covereth the guts called the epiloon or omentum after they be fallen in the scrotum, inguen or umbilicus; to put bones in their own place being out of joint.

The fourth, to separate that which is contained, as aposthumes, opening a vein, scarifying, applying of horsteaches, bentofies, by cutting the ligament under the tongue, cutting two fingers grown together, by cutting the prepuce of the yard, by cutting the natural conduit of women being closed naturally together, or else by accident, as oft chanceth after wounds, ulcers, and such like.

The fifth, to join that which is separated, as in healing broken bones, bones that be out of their place, healing of wounds, ulcers, fistulas, and such like.

What method is to be observed of the surgeon in working those operations?

First, to know the disease; next, to do the operation as soon as may be, surely and without false promises or deceits; to heal things that cannot be healed; for there are some, who being void of knowledge or skill, promise for lucre's sake, to heal infirmities, being ignorant both of the diseases and the remedies thereof. These faults be often committed of some, who usurping the name of surgeon, being unworthy thereof, have scarce the skill to cut a beard, which properly pertaineth to their trade.

It seemeth by words, that there are some infirmities pertaining to our art which are incurable.

There be divers, like as cancer occult, leprosy, elephanticke particular; also when the diseased refuse the remedy proper for the cure thereof, as cut a member being mortified, to make incision of the hypdropic; and also when by the curing of the malady, there ensueth a greater disease, like as to stay altogether suddenly the hemorods which have long run, or any other natural evacuation voluntary. (I saw in Paris a woman that had a flow of blood which flowed quarterly, sometime monthly, the which being stopped, she died immediately thereafter) to cut the varices in the leg, or elsewhere, because the humor taketh the course oftentimes to some principal part, which is cause of death, also in healing the boils which come in the legs or arms, called malum mortuum.

What remedies then are most expedient to be used in those diseases?

Remedies palliative and preservative to let the evil that it increase not, as we shall treat of each of them in their several places.

To do all those operations, what qualities ahe required of the surgeon?

There are divers, the first of all as Celfus saith, that he be learned, chiefly in those things that appertain to his art, that he be of a reasonable age, have a good hand, as perfect in the left as in the right, that he be ingenious, subtle, wise, and tremble not in doing his operations, that he have a good eye, and good experience in his art before he begin to practise the same, also that he have seen and observed of a long time of learned surgeons, that he be well mannered, affable, hardy in things certain, fearful in things doubtful and dangerous, discreet in judging of sickness, chaste, sober, pitiful, that he take his reward according to his cure, and ability of the patient, not regarding avarice.

What conditions ought the patient to have?

Divers also, and first he must have a good opinion of the surgeon, that he have a good hope to be cured of him, to be obedient to his counsels, for that availeth much in healing of

maladies, that he endure patiently that which is done for the recovery of his health.

Which are the instruments that the surgeon ought to use in his operations?

They are of two sorts, for some are common, others are proper; and the instruments and remedies common, be also of two sorts, for some be medicinals, some be ferramentals.

Why do you call them common?

Because they serve indifferently to divers parts, and may be used in all parts of the body.

Which are the medicinals?

They consist in ordaining good regiment in things natural, unnatural, and against nature, in letting of flood, also in applying plasters, cataplasms, lineaments, powders, unguents, and such like.

Which be the instrumentals ferramentals?

Some are to cut as razors, some to burn as cauters actuals, some to draw away, as tenals incisive, pincets, trivalls, some are to be sound as to sound a wound, the stone in the bladder and such like; some are to sew wounds and knit veins and arteries, as needles.

How many things are to be observed by the surgeon before he undertake any operation?

According to Holy Abbas, there are five; the first, to know well the temperament of the patient; the second, he must know the sickness and nature thereof; the third, whether it be curable or not; the fourth, remedies proper and meet for the disease; the fifth, the right way to apply such remedies as be needful; of all those he ought to give good reasons and authority, of such famous men as have written of this science.

In how many things consisteth chiefly the contemplation of surgery?

In three things, according to Fuchius.

Which are they?

The first, are those things that concur to the making and constitution of our body, and therefore are called things natural. The second, are those things which conserve the body from sickness, and being rightly used, nourisheth the same; our ancients call them things unnatural, because if they be immoderately and ill used they be altogether contrary to our bodies. The third, are those things indeed which are contrary to our bodies, and therefore are called things contrary to nature as Galen writeth.

Tell me something more particularly of those contemplations of surgery.

I am content, if your leisure permit.

Then we will in the next chapter, proceed to natural things."

NEWS ITEMS.

Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research, who was operated on for appendicitis at the Presbyterian Hospital, December 4th, is reported to be doing well.

It is announced that with its current December issue, *The Montreal Medical Journal* will cease publication. It is understood that this is done through friendly agreement with the Canadian Medical Association, whereby the work heretofore done by *The Montreal Journal* will continue to be represented in a new publication.

The California State Board of Health is the first to place syphilis and gonorrhea on the list of reportable diseases.

A daughter was recently born to Dr. and Mrs. A. L. Bingham of Williston.

The 6th annual meeting of the Rutland Railway Surgeons was held at the Van Ness House, Thursday, December 15, 1910. The following program was carried out:

The Pathological Injuries to the Skull and Brain, Dr. B. H. Stone, State Pathologist; discussion, Dr. S. E. Maynard, Dr. C. S. Caverly, Dr. A. G. Wilding.

Paper, Dr. C. W. Bartlett; discussion, Dr. C. W. Peck, Dr. F. F. Finney, Dr. D. A. Gleason.

The Use of Alcohol and Iodine as Antiseptics in Accident Surgery, Dr. M. R. Crain; discussion, Dr. A. H. Bellerose, Dr. J. P. J. Cummins, Dr. E. N. Chevalier.

Paper, Dr. J. S. Hill; discussion, Dr. C. A. Pease, Dr. F. M. Rogers, Dr. W. R. Starks.

Business Meeting.

7 P. M., Smoker.

The officers for the ensuing year are:

Dr. L. M. Bingham, Chief Surgeon.

Dr. E. A. Rust, President.

Dr. G. H. Gorham, Vice-President.

Dr. Stanton S. Eddy, Secretary and Treasurer.

Dr. C. A. Pease, Dr. C. W. Peck, Dr. F. C. Phelps, Executive Committee.

The initial number of the *American Journal of Diseases of Children*, published by the American Medical Association, will be issued on the first of the year.

Miss Florence Nightingale's remarkable character is shown by the directions which she gave as to the disposal of her body. She willed her body to medical science for dissection and requested that, if possible, no memorial or one of the simplest character, should mark the place of burial; also that the burial services should be extremely simple.

Dr. J. M. Clarke announces his retirement from active practice and his intention of devoting his time to consultation in mental diseases.

The governor has appointed Dr. W. Scott Nay of Underhill and Dr. E. D. Whittaker of Barre to be delegates to the Council of Medical Education at Chicago, May 1, 2 and 3, 1911.

The board of directors of the Barnard Free Skin and Cancer Hospital (St. Louis Skin and Cancer Hospital) announce the completion of the new hospital.

The American Public Health Association will hold its 1911 meeting in Havana, Cuba, from December 4 to 9. The prospect of having the Association again in Havana has aroused the warmest interest among the physicians there, the Secretary of Sanitation, Dr. Varona, being particularly interested. The Academy of Medicine has offered its building for the general section meetings. The Hotel Sevilla will be the headquarters of the Association. A few years ago a meeting in Havana would probably have discussed yellow fever. The changed situation in Cuba with respect to that disease is shown by the fact that yellow fever has been so completely extinguished on the island that the local physicians desire rather that tuberculosis be given the most prominent place. The question of the milk supply will also be considered. It is hoped at this meeting that the recently organized Sociological Section, and the Section on Sanitary Engineering, which was tentatively authorized by the Milwaukee meeting, may be put upon substantial foundations.

Dr. Alfred Dandelin of Somersworth, N. H., has succeeded to the practice of Dr. O. S. Maynard, Nashua, N. H., who has gone to Paris, France, for special surgical study.

Dr. Henry Janes of Waterbury suffered a painful accident by falling on the ice in front of his home.

The National Confederation of State Medical Examining and Licensing Boards will hold its twenty-first annual meeting in Chicago, Ill., on Tuesday, February 28th, 1911, at the Congress Hotel. The subjects to be taken up at this meeting will be a consideration of the State Control of Medical Colleges; a report by a special committee on Clinical Instruction; a report on a proposed Materia Medica List by a special committee; the report on a paper presented at the St. Louis meeting by Mr. Abraham Flexner of the Carnegie Foundation for the Advancement of Teaching; and some special papers on such subjects as the Regulation of Medical Colleges, Necessity for Establishing a Rational Curriculum for the Medical Degree, and others, by men eminently qualified to prepare papers upon such subjects. These topics are all of practical and vital interest to medical colleges, medical examining boards, the profession at large and the public. The Symposium will be composed of ten papers and be presented from the viewpoints of state, law, *medical colleges, state medical examining and licensing boards and the medical profession.* The contributors of papers to the Symposium on State Control of Medical

Colleges are men of the highest attainments in matters pertaining to state, law and the medical profession, and their production will be worthy of the most careful consideration. The chief object of the Symposium is to determine, as far as possible, the feasibility of placing Medical Colleges under State Control. The special committee on Materia Medica made a report at the St. Louis meeting of the Confederation June 6th, 1910, and it was continued and instructed to report again at the next annual meeting of the Confederation in 1911. The report of this committee made at St. Louis has received very favorable comment by many of the editors of medical journals, and should receive at the Chicago meeting extended and careful consideration. The report on Mr. Flexner's paper is published in the Proceedings of the St. Louis meeting of the Confederation, page 64, and will be open for discussion at the Chicago meeting. An earnest and cordial invitation to this meeting is extended to all members of State Medical Examining and Licensing Boards, teachers in medical schools, colleges and universities, delegates to the Association of American Medical Colleges, to the Council on Medical Education of the A. M. A., and to all others interested in securing the best results in medical education. The officers of the Confederation are: President, J. C. Guernsey, M. D., 1923 Chestnut St., Philadelphia, Pa.; secretary-treasurer, George H. Matson, M. D., State House, Columbus, Ohio.

A meeting of the White River Valley Medical Society was held at the office of Dr. Cobb in White River Junction, January 3rd. The following papers were given: Arterio-poliomyelitis, Dr. Hazen, Springfield, Vt.; Anaphylaxis, Dr. Graham, Hanover, N. H.

Dr. W. B. Thorning, U. V. M. class of 1899, formerly of Winchendon, Mass., has opened an office in suite 403, Carter Building, Houston, Texas.

Dr. C. B. Warren, recently from the Mary Fletcher Hospital, has located in West Rutland, Vt.

Dr. L. George Belisle has removed from Chisholm, Me., to West Rutland, Vt.

OBITUARY.

Montraville McHenry, M. D., University of Vermont, 1878, member of the Medical State Society of Pennsylvania, died at his home in Benton, December 1, from cerebral hemorrhage, aged 74 years.

Dr. Augustine Gandier died at his residence, Sherbrooke, Que., December 15, 1910, at the age of 45 years. He was graduated as Gold Medalist from Queen's Medical College, Kingston, Ont., in 1890. He afterwards obtained degrees of M. R. C. S., L. R. C. P., L. S. A., London, Eng.

Dr. J. N. Woodward of Nashua, N. H., died at his home in November.

Dr. F. S. Hutchinson of Enosburg Falls was fatally injured by being thrown from his sleigh against a hydrant on January 3rd. Death occurred January 6th.

NOTICE.

THE AMERICAN PROCTOLOGIC SOCIETY'S PRIZE FOR THE BEST ORIGINAL ESSAY ON ANY DISEASE OF THE COLON BY A GRADUATE OF (NOT A FELLOW OF THE SOCIETY) OR A SENIOR STUDENT IN ANY MEDICAL COLLEGE OF THE UNITED STATES OR CANADA.

The American Proctologic Society announces through its committee that the cash sum of $100 will be awarded, as soon as possible in 1911, to the author of the best original essay on any disease of the colon in competition for the above prize.

Essays must be submitted to the secretary of the committee, on or before May 10, 1911. The address of the secretary is given below, to whom all communications should be addressed.

Each essay must be typewritten, *designated by a motto or device, and without signature or any other indication of its authorship, and be accompanied by a separate sealed envelope, having on its outside only the motto or device con-*

tained on the essay, and within the name, the motto or device used on the essay, and the address of the author. No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays, if reclaimed by their writers within six months, provided return postage accompanies the application.

The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

The competition is open to graduates of medicine, (not fellows of the society) and to members of the senior classes of all colleges in the United States or Canada.

The object of the prize and competition is to stimulate an increased interest in, and knowledge of Proctology.

The committee shall have full control of awarding the prize and the publication of the prize essay, and it shall be the property of the American Proctologic Society. It may be published in the Transactions of the Society and also as a separate issue if deemed expedient. The committee may increase its membership if deemed advisable.

Dr. Dwight H. Murray, Chairman.
Dr. Samuel T. Earle,
Dr. Jerome M. Lynch,
Dr. Alois B. Graham,
Dr. Lewis H. Adler, Jr., Secretary.
1610 Arch St., Philadelphia, Pa.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

EXPERIENCES WITH ARSENOBENZOL.

In the *Medical Record* for Dec. 31, 1910, Wm. S. Gottheil, M. D., of New York, gives the results of the use of 606 in a number of cases of syphilis at the City Hospital. In twenty-five hospital cases in which the drug was used the patients were observed for some time after treatment. These cases presented a variety of lesions, chancres, general eruptions, mucous patches, iritis, condylomata, tertiary ulcerations, and gummata. At first an emulsion was used, injected into the sub-scapular region, but it was found preferable to make use of the region of the quadratus lumborum muscle, and the emulsion was abandoned in favor of the clear solution. In all cases, severe pain followed the injections, lasting for at least a day or two, and requiring morphine for its control. Large and troublesome induration frequently resulted at site of the injection. In ten of the twenty-five cases observed renal irritation was indicated by the occurrence of red blood cells in the urine a few days after treatment. Regarding the results of the treatment the author gives brief histories of the cases, followed by a summary of his conclusions.

Of the cases recorded the writer considers six as frankly successful, nine as moderately so, while eight are classed as unsuccessful. In some of these not successful cases no effect was noted, in others some improvement occurred, in some new symptoms developed later. Dr. Gottheil does not regard 606 as the treatment of choice in the majority of cases at present, nor does he believe the results obtained in this series as better than would be expected from use of mercury, though admitting that arsenobenzol is "of undoubted efficacy in syphilis of various forms," and especially indicated in some certain cases.

A CLINICAL METHOD OF ESTIMATING THE COAGULATION TIME OF THE BLOOD.

In the *American Journal of the Medical Sciences*, December, 1910, Robert Dawson Rudolph, M. D., of Toronto, describes the method used by him to estimate the coagulation time of blood. A pint Thermos bottle filled with water of the desired temperature is used as a thermostat. The cork of the bottle is replaced by one of rubber perforated in three places. A thermometer is placed in one of these perforations, while the other two contain brass tubes just big enough to hold the glass tubes in which the blood is contained, and which are 1.5 mm. in diameter and some seven inches long. Two of these glass tubes are filled with blood procured by puncture of a finger tip, one tube placed in each of the brass tubes, and the projecting ends sealed; after a sufficient period, some five minutes in a normal case, one of the glass tubes is withdrawn, touched with a file and broken across. If there is no coagulation the fluid column will also break evenly across. In this case the tube is replaced for a half minute, then broken in another place. This is continued at the same intervals till a thread of fibrin appears between the ends of the tube when broken. This gives the time of coagulation, and the second tube is used as a control. The author has made several hundred tests, and the marked uniformity of results when conditions were similar, indicates that the results are accurate. During these tests it has been found that the average time of coagulation is about 8½ minutes at a temperature of 20° C., and that the time varies about a minute for each variation of a degree in temperature. Beyond early childhood age does not appear to be a factor, nor does sex, and there doesn't seem to be any diurnal variation.

In normal cases the coagulation time is not influenced by the giving of calcium lactate, while citric acid may retard the clotting slightly. With the blood of the same person, used at different times, considerable variation may occur.

THE CLINICAL VALUE OF THE CAMMIDGE REACTION.

Lyell C. Kinney, M. D., Resident Physician at the German Hospital, Philadelphia (*American Journal of the Medical Sciences*, Dec., 1910), gives the result of fifteen months of experience with the so-called "C"

reaction of Cammidge—a urinary examination for diagnosis of pancreatic disease. Duriug the period from January, 1909, to April, 1910, the reaction was studied in 154 cases, the technique proposed by Cammidge being closely followed. Tables are shown comparing the results of the reaction with diagnosis and operative findings. From the results of this series of cases the author concludes that the value of the Cammidge reaction is but very limited, a negative reaction being of little value, and a positive one valuable only as confirmatory evidence.

SURGERY OF MALIGNANT GROWTHS.

The recent progress of surgical treatment of malignant growths is treated by J. G. Bloodgood, Baltimore, (*Journal A. M. A.*, October 29). He believes that we have come to a better conception of the pathologic varieties and also of their local growth and tendency to metastasis. Surgeons are learning better which kinds of tumors need extensive operation and which can be treated with less mutilation. He begins by speaking of the necessity of early attention to the benign forms of tumors which may become malignant and to the tendency of scars to give rise to sarcoma. The point he emphasizes is that the physician should constantly bear in mind the late effects of trauma, not frighten his patients with too plain speaking in regard to the danger, but caution them to return for examination in case of prolonged irritation or trouble in the site of injury. One of the important things in recent progress is the better knowledge and opportunities to anticipate malignant growths before they become really malignant. Bloodgood emphasizes the importance of diagnosis and states that we should try to become skilled in the clinical diagnosis. This is most difficult in the early stages; as a rule, the more positive the clinical diagnosis the worse the prognosis. Surgeons with the largest experience find themselves frequently unable to decide whether a restricted or extensive operation is needed unless by pathologic as well as clinical examination. The malignant growth of bones is more extensively discussed than other subjects, and he refers to other publications on the subject. Our experience today, he says, reverses the old rule of amputation for sarcoma of bone unless the resection of malignant disease would leave a limb without function. If spindle-celled or round-celled sarcoma of bone has grown to such a size as to require amputation, metastasis has already taken place and the patient should not be subjected to the mutilation of an amputation for the few months they have to live, unless the tumor is giving so much pain or discomfort as to call for it. On the other hand, if the tumor belongs to the less malignant type, amputation should be performed, since in the majority of cases it will accomplish a cure. He gives an analysis of his recorded cases, showing the relative frequency of the different varieties of benign and malignant bone tumors; also, of the varieties of lesions of the jaws, orbit, nose and nasopharynx, and also of the thyroid and parotid glands. The lesions of the female breast are also noticed, as well as those of the skin and soft parts generally. He concludes that until we have found some other method of treating malignant growths future progress must proceed along the lines followed at present. There must be a correlation between the clinical gross and microscopic pictures of the lesions in the same locality, and, though the time which elapses between the operation and results is remote, we must bring together the ultimate result in operative procedures for lesions of the same kind or in the same locality. In every case there should be a microscopic study. In this way surgeons should be able to obtain accurate surgical information enabling them to perform the operation which will give the patient the best chance with the least mutilation, and also to give the greatest comfort to the incurable patient by palliative methods. These last should not be left to the quack with his various cancer cures. We have not yet reached the limits of the early recognition and treatment of what might be called the precancerous lesions or the early diagnosis of the malignant disease itself. There is every reason to believe that surgery, which has accomplished so many cures in the past of both cancer and sarcoma, can do still better in the future.

SUBMUCOUS RESECTION OF SEPTUM.

Certain points in regard to the submucous operation for septum resection are treated by C. E. Purcell, Paducah, Ky. (*Journal A. M. A.*, October 22). He asks whether the deviated or deformed septum can cause injury to eyes, ears or throat, and says that his clinical experience answers the question affirmatively. Eye troubles in some of his patients have been completely relieved by remedying the septal deformity, among them asthenopia, conditions requiring the use of glasses, stubborn cases of headache and eyestrain, etc. He thinks too little also has been said about the influence of nasal insufficiency in throat and laryngeal troubles. While infection is rare in this operation, he says it must be kept in mind, and reports a case of erysipelas occurring in his own practice. He does not hesitate to operate on children of 7 or over, though there is a difference of opinion in regard to this. He thinks that it would be a safer course than leaving them to suffer the effects of obstruction. To operate on patients of advanced age or on those unable to stand a long, tedious procedure is also questionable. In his experience the initial incision is the key to success. The crust formation is a disadavantage which he hopes will be obviated in time. He has examined 563 septa in negroes without finding any case of extreme deflection. He gives the results of 126 cases of operation in private patients, among which he had only one case of perforation—that here reported. Here it was attributed to picking the scabs, which the patient admitted. The incision he has used for the last year is as follows: "Beginning well up ou the septum with the ala nasi lifted, a vertical incision is carried down to and about half across the nasal floor. This incision has to be made, or at least finished, with an angular knife. From the lower end of this, a slightly curved incision in a horizontal direction is brought forward more in the cutaneous than iu the mucocutaneous structure. This acute angle flap when elevated gives easy access to the crista. Two sutures are inserted in the vertical cut and, if need be, one in the horizontal. The two sutures prevent retraction of the flap in healing. Should the apex retract the squamous epithelium is on the floor of the nose and therefore no scales will form. The horizontal incision will not form crusts or scales because it is in the skin. The incision is preceded by a few drops of cocain and adrenalin hypodermically." He thinks the operation peculiarly adapted to private practice. Further details of the treatment are given. In conclusion he says: "Spare the turbinates, cau-

terize little, and meddle seldom with the nose after operation. A nose with stenosis, like a plugged-up pipe has to be opened from end to end; therefore, to secure full breathing capacity sometimes requires extensive resection, which uses up all one's attention, energy and judgment."

EXPERIMENTAL CANCER RESEARCH.

Leo Loeb, Philadelphia (*Journal A. M. A.*, October 29) enumerates the important facts that have been elicited by cancer research in the past 10 years as follows: Tumor cells in many cases can be propagated in other individuals of the same species and on the whole preserve their specific character as cancer cells. This proves definitely that tumor cells are not merely regenerating tissue cells and their activities cannot be merely due to the peculiarities present in the individual organism in which the tumor originated. In accordance with this fact is the other that the ferments of tumor cells differ quantitatively and probably also qualitatively from those of ordinary cells. On the basis of our present experimental data we have strong reasons for believing that cancer cells can proliferate indefinitely, so long as they have suitable environmental conditions. This suggests a modification of the theory that germ cells only are immortal. We are learning more of the conditions which determine the energy of growth of tumor and tissue cells. The propagation of tumor cells we find is amenable to variations that can be experimentally produced, and that the experimentally produced changes may be transmitted to a succession of generations of cancer cells. We have further learned that some clinical experiences of surgeons with cancer are merely special instances of more general laws which are being developed by cancer investigation. New and unsuspected properties of cancer cells have been discovered, among these their great capacity for recovering from external injurious influences. By selecting, instead of average tumors, very well-growing tumor cells, it is possible to produce more rapidly growing tumors. We can also by experimental investigation analyze not only the activities of the tumor cells, but also the conditions of the host on which, in part at least, the life of the tumor cells depends. Some important facts have been learned which may appeal to the physician. The transplantability of the tumor depends first on the character of this particular tumor, and second, on the character of the host. The majority of tumors, so far as we can at present say, can be transplanted in the same individual in which the tumor originated; others can be transplanted into individuals nearly related, while a certain number grow on a large number of individuals of the same species, and a few grow even in different, though in nearly related species. This called attention to the fact that somewhat like conditions existed in normal tissues, and indicates specific relationship of chemical adaptations existing between the body cells and the circulating fluid. Some individuals of the same species are found immune and others can be rendered artificially immune. A very potent immunity can be produced by inoculating living tumor material, the vitality of which has been lowered by previous heating, and an active immunity has been produced in animals by the use of material from retrogressed tumors. We see, therefore, that the first positive results have been already obtained in experimental immunization against tumor growth, a fact of great theoretical and practical significance. Experimental cancer research has also stimulated the experimental study of general tissue growth, and *vice versa*. It has also exerted a stimulating effect on some other apparently unrelated fields of science. Thus the investigation into the artificial production of deciduomas promises to clear up to a great extent at least the mechanism of the sexual cycle in the female mammalian organism, while certain studies of immunity against tumor growth appear to throw an unexpected light on the etiology of eclampsia. The investigators at work are not at all inclined to overestimate, he says, the results of their work or to underestimate its difficulties. But he is convinced that the facts elucidated within the last ten years deserve to be well known by the biologist and the physician.

ACHLORHYDRIA HEMORRHAGICA GASTRICA.

J. T. Pilcher, Brooklyn (*Journal A. M. A.*, November 19), gives the results of observations made at St. Mary's Hospital, Rochester, Minn., as regards the free hydrochloric acid in the stomach with occult blood present. In 4,000 stomach examinations he can recall only seven cases that could be called achylia gastrica, and only one of real insufficiency of the pylorus determined at operation. In 271 instances, however, the absence of free hydrochloric acid, accompanied by occult blood, was observed and the histories developed the fact that, in 156 of these cases, the onset of the gastric symptoms seemed to be in direct relation to various diseases and conditions, among which he mentions infectious diseases in thirty-eight cases, circulatory disturbances in twelve, postoperative development in fourteen and derangement of the ductless glands in twenty instances. It is also mentioned as very significant that, in 100 cases in which the condition of achlorhydria was present, the pathologic findings showed involvement of the appendix in thirty-six, the gall-bladder in thirty-two, the gall-bladder and pancreas in sixteen and the stomach in sixteen. There were twelve cases in which the appendix was diseased together with the gall-bladder. These facts seem to him to point to the presumption that reflex nervous phenomena are responsible primarily for the inhibition of the production of hydrochloric acid in such instances. The morbid anatomy found is also of interest. Sixty-four were apparently normal. In twenty-four pyloric spasm was shown on the operating table, with appendicitis eighteen times and with gall-bladder involvement six times. In two cases ulcer of the stomach was found, in one pyloric insufficiency and in three marked thickening of the pylorus; there was one congenital stenosis and one hour-glass contraction. The findings in three stomachs with this derangement of gastric secretion in which no carcinoma is present, were the occurrence in each of unquestionable isolated erosions or ulcerations of the mucosa, in places down to the muscularis, and a very evident submucosal infiltration of round cells. There was also engorgement of capillaries and masses of yellowish blood pigment lying over the epithelium. The order of pathologic occurrence is stated as follows: First, a primary inhibition of the hydrochloric acid reflexly produced; second, an invasion of the stomach by pathogenic organisms, especially streptococcus, causing irritation of the mucosa; and, third, a superficial erosion or ulceration of the mucosa. The condition must be differentiated from gastric and duodenal ulcer, cancer and cardio-spasm, pregnancy,

uremia, phthisis, etc. In the treatment, the best results have been obtained from the proper regulation of diet and use of alkalies in combination with general tonics. Where any pathologic condition requiring it can be determined, surgery is, of course, indicated. The symptoms of the condition are pain and distress in the epigastrium, in a third of the cases occurring after eating, though it may occur before meals. Bitter acid eructations are constant. Vomiting is complained of in about half the cases. Constipation is usual, but may alternate with diarrhea. Marked impairment of appetite is often apparent and loss of weight is pretty constant. The mental attitude is characteristic, periods of depression alternating with periods of nervous excitement. Malaise, easy fatigue, occasional headaches and insomnia occur. The general symptomatology is suggestive. The condition is so common, approximately one of every fifteen cases examined, and the indication it gives of irritation of other organs so firmly established, not to mention the potential factor for future trouble which it itself contains, that Pilcher thinks it deserves more frequent consideration in the study of possible gastric conditions than it has received.

BACTERIOLOGY OF ACUTE RESPIRATORY INFECTIONS IN CHILDREN.

L. Emmett Holt, New York (*Journal A. M. A.*, October 8), publishes his more recent studies on the bacteriology of the acute infections of the respiratory tract in children. In a previous paper he had pointed out that the *Bacillus influenza* played an important part in respiratory infections, especially in winter and early spring, but disappeared during the warmer months. He has somewhat enlarged his research, and included observations on the occurrence in the respiratory tract secretions of the pneumococcus, influenza bacillus, the staphylococcus and streptococcus. The diphtheria bacillus and *Micrococcus catarrhalis* are not included, though they were noted when present, and a detailed report prepared in regard to the latter. Between September, 1909, and June 1, 1910, he made over 1,100 cultures from 500 patients and 30 nurses and attendants; also cultures from lung and heart blood in 85 routine autopsies. The patients were from the Babies Hospital, and mostly under 3 years of age, and the results are given in tabulated form. Four groups of patients are included: (1) those with pneumonia, mostly of the acute primary type, bronchopneumonia predominating; (2) those with bronchitis and other respiratory infections, for the most part mild; (3) those with pulmonary tuberculosis; (4) those with non-respiratory diseases, and included in this group are thirty nurses and attendants. Pure cultures were never seen, though a dominant one was present in many cases. In all the groups in fact, the predominance of the pneumococcus and of the *Staphylococcus aureaus* is notable, while the *Bacillus influenza* percentage is considerably less than that of the preceding season. The streptococcus was rarely predominant, though occurring usually in small numbers in over half of the patients and in one-third of the cultures taken. That the character of the infection in bronchitis is essentially the same as that in pneumonia is not generally appreciated. In the second group, of mild cases, the relative frequency of the different germs in cultures was about the same as in the first group, except a little larger percentage of influenza cases. In the tuberculous cases the percentage of influenza is still higher, while the pneumococcus and staphylococcus predominate. In the non-respiratory cases tne staphylococcus was found in about 85 per cent. and the streptococcus in about half that number. It is worth noting that 52 per cent. of the patients showed the pneumococcus and the proportions of influenza fell the lowest of any of the groups. He has appended the results of cultures from 57 cases of acute otitis. About half of these patients showed the influenza bacillus in throat cultures, but only four of them showed it in ear cultures. With the mixed character of the infection in all these cases, it was often impossible to connect the clinical symptoms with definite findings. There were very few cases of typical acute pneumonia and there was no definite modification of the symptoms observed with the presence of the streptococcus, except in a few cases of exceptional severity. The influenza bacillus seemed to complicate and cause irregularities when it occurred, and several fairly distinct clinical types were associated with it, which are described. It was more frequently associated with symptoms of the lower than of the upper respiratory tract and, in general, mild general symptoms, irregular physical signs and marked temperature variations. A number of cases are reported. Holt thinks that the influenza bacillus plays a considerable role in the respiratory diseases of young children. He is more doubtful of the influence of the streptococcus and the staphylococcus, but reports a case which made quite an impression on him, of bronchopneumonia with otitis apparently cured by staphylococcus vaccine. The necropsy findings correspond with the clinical findings by sputum cultures in the main. The mixed infections were found in a great majority of cases. In conclusion, he rather emphasizes the significance of repeated findings of the bacillus influenza in sputum cultures, in the winter and spring season at least.

INTESTINAL INDIGESTION IN CHILDREN.

The chronic intestinal indigestion in children after the second year of life is discussed (*Journal A. M. A.*, December 24) by S. M. Hamill and K. D. Blackfan, Philadelphia. While these chronic disturbances of the intestinal tract may be secondary to disturbances of the gastric digestion or to recurring attacks of acute gastro-intestinal disturbance, in a large percentage, if not the majority of cases, the condition is primary, and it is in these, which eventually result in the more pronounced types, that the earlier symptoms are frequently overlooked. In the routine examination of the stools of apparently normal children foul smelling feces, sometimes containing particles of undigested food, are a common finding. Closer examination will often result in the discovery of other symptoms of disordered digestion of which the child has made no complaint. Nevertheless, this one symptom may continue indefinitely as the only one, and this is important, as it is the best time to treat it early. The only satisfactory way of making the diagnosis of these milder forms is by the routine examination of the stools, and this should be done several times at intervals of several days. The authors describe the stool which they consider as normal. It should be of faintly alkaline, of amphoteric or neutral reaction, well formed, light or medium brown in color, and have a slight and not especially offensive fecal odor. It should show no evidence of fermentation and only slight traces of mucus. In the intestinal indigestion

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the stools show evidence of abnormality, depending on the particular element of diet that is not satisfactorily disposed of. There evidently occurs in the intestinal tract a diminution of the resistance to the putrefactive bacteria in the slighter cases without especially interfering with its digestive function. A careful study of the urine may direct attention to an intestinal indigestion by the presence of indican, phenol, etc., when the stools show no evidences of abnormality. Aside from the stools, the symptoms may vary from nothing to a very serious clinical picture and are by no means restricted to the intestinal tract. The cardiovascular system may be most affected and on the part of the nervous system there is no limit to what may be observed. The most common nervous phenomena are restless sleep, night terrors, and sometimes insomnia. The authors call especial attention to the restlessness and irritability, sometimes culminating in convulsive attacks which may be the foundation of future epilepsy. It is difficult to explain why certain children show more marked nervous symptoms than others and the authors think that the term neurasthenia may be properly applied to these nervous symptoms dependent on the toxins developed by intestinal indigestion. Distention of the abdomen does not develop in all instances, and, when vomiting of toxic origin also occurs, the picture of tuberculous peritonitis may be strongly suggested and its exclusion be difficult. Another symptom especially mentioned is the peculiar form of dyspnea or "sighing respiration," most marked after meals especially supper, or when food is taken immediately after severe exercise. The authors think we may attribute it to some toxic effect on the respiratory centers. The treatment divides itself into, first, absolute control of the case, *i. e.*, the full cooperation of the mother and nurse. This is essential for success. Second, hygienic measures, life in the open air, regulated exercise, slow eating and due mastication, early retiring and long hours of sleep; attention to the skin and excretions is important. Defective teeth must be attended to, as well as disturbing adenoids and tonsils. The diet should be well selected, according to the needs, and over-eating prevented. Drugs are of least importance. The intestinal antiseptics have not been of any use, but in the beginning of the treatment a course of calomel, followed by colonic washings, is effective. Drugs are seldom needed for constipation. The free use of water, regularity of habits and a selected diet will control this condition. As a temporary measure olive oil enemas and non-irritant suppositories are preferable to laxatives. Bitter tonics are the only ones that are needed.

A New Line of Parke, Davis & Co.

"Everything under the sun for physicians" might be suggested as a motto not inappropriate for Parke, Davis & Co. The thought is prompted by the recent incursion of the company into the field of surgical dressings. It was something like a year ago, if we mistake not, that Chloretone Gauze and Formidine Gauze were launched in modest fashion, the purpose evidently being to let them find their way into the medical armamentarium in the natural order of events rather than by artificial fostering. Their reception by the profession must have been gratifying, for the line soon began to expand. Now it numbers six gauzes and tapes, and we note a disposition on the part of the company to bring them more prominently to the attention of physicians. For this reason a word or two in explanation of them may not be out of place.

The line includes Chloretone Gauze, Formidine Gauze, Formidine Tape, Adrenalin Tape, Plain Tape, and Anesthone Tape. What has been said of the therapeutic properties of Chloretone, Formidine, Adrenalin and Anesthone (and most physicians are well acquainted with these products) is applicable to the surgical dressings. Chloretone Gauze applied to raw surfaces exerts an anesthetic and antiseptic action, promoting the comfort of the patient. It is markedly useful in extensive burns. Formidine Gauze takes the place of iodoform gauze. It is more actively antiseptic, does not stain the clothing, is nontoxic, and is practically odorless. Formidine Tape, which comes in two widths (½ inch and 1½ inches) is used for packing cavities antiseptically. Adrenalin Tape, supplied in ½ and 1½ inch widths, is serviceable in tamponing cavities to check hemorrhage. Plain Tape, which also comes in the two widths above mentioned, is used for packing and draining small wounds and cavities. Anesthone Tape is serviceable in the various forms of nasal hyperesthesia. All of the tapes are double-selvaged and when removed from wounds do not leave short threads to cause irritation.

Parke, Davis & Co., issue a small pamphlet descriptive of their medicated gauzes and tapes. Physicians who have not received a copy are advised to write for one. The dressings are pretty generally carried in well-stocked pharmacies.

The Restlessness and Sleeplessness of Pneumonia.—The relief of restlessness and sleeplessness of pneumonia calls for the use of a soporific that will not depress the heart, yet it must possess an effectiveness, otherwise its only influence will be to disturb the already suffering stomach.

The unusual value of PASSIFLORA INCARNATA (Daniel's Concentrated Tincture) as an agent of its class and its freedom from depressing effects, insure that no better agent than it can be chosen to allay the restlessness

and sleeplessness of pneumonia. It has been demonstrated that every virtue of chloral and the bromides is to be found in PASSIFLORA (Daniel's) with none of their disadvantages. A sample may be had by addressing the Laboratory of John B. Daniel, Atlanta, Ga., if you have not already received a bottle.

During the Cough Season.—For the relief of cough and its causative factor, the physician has in Pruni-Heroin (Wyttenbach) a most effective weapon. Its constituents are of marked benefit in bronchial and pneumonic inflammations, having been carefully chosen for this express purpose. In addition to these features, Pruni-Heroin (Wyttenbach) possesses soothing properties—a rasping cough promptly subsiding under its influence. In view of these virtues, it is the logical remedy in the coughs so frequently met with during the cough season. Samples and literature may be had by addressing the Wyttenbach Chemical Company, Evansville, Ind.

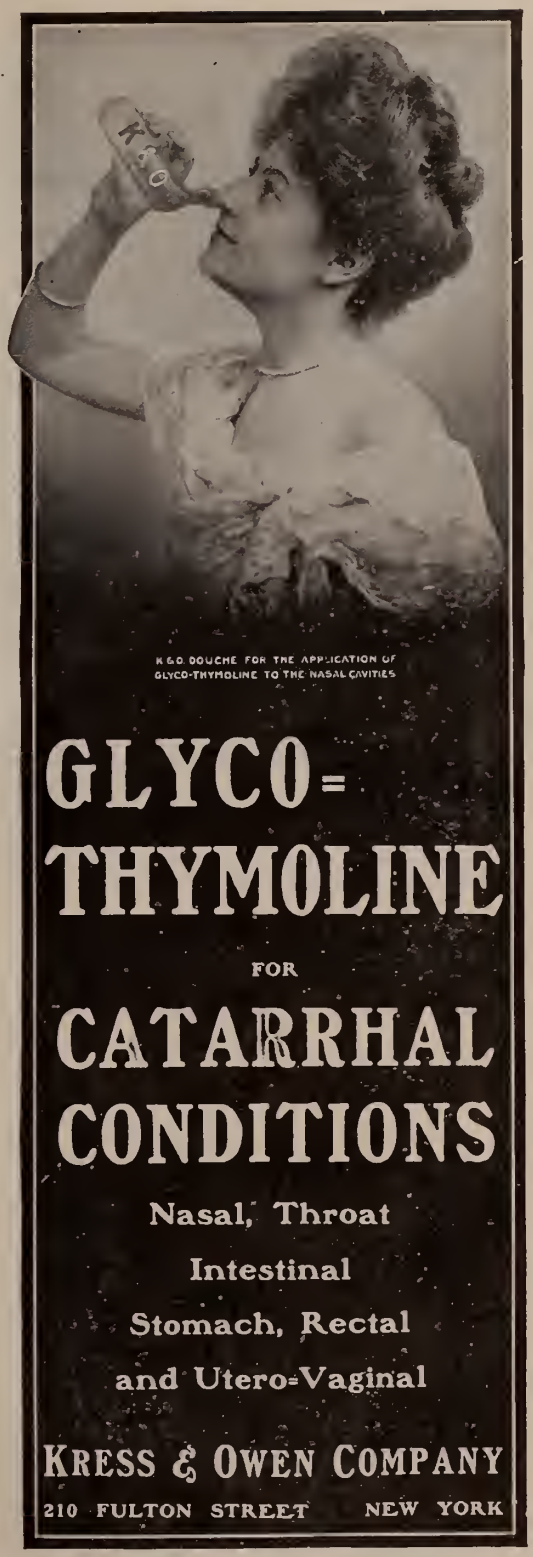
Registration of Births and Deaths.

census bureau issues a physicians' pocket reference to causes of death.

Washington, D. C., December 27, 1910.—In furtherance of its advocacy of the extension of the registration of deaths and births throughout the United States, the Census Bureau is issuing to the health officers and medical students of the country a physicians' pocket reference to the International List of Causes of Death. In his letter of transmittal on the subject to Secretary Nagel, of the Department of Commerce and Labor, Census Director Durand states:

Sir: It seems to me that there is almost nothing more important in the entire field of statistics than vital statistics, because of their direct bearing upon the health and consequent welfare of the people. It certainly is both strange and shameful that the United States should be so far behind the other leading countries of the world in the registration of deaths, and even more so in the registration of births.

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of the continuous effort of this bureau, since its permanent organization, to remedy this defect. It has been prepared by Dr. Cressy L. Wilbur, chief statistician for vital statistics, with the advice and aid of the Census Commission appointed under Public No. 1, Sixty-first Congress, to represent the United States in the International Commission for the Revision of the Classification of Diseases and Causes of Death, which was called by the Government of France at Paris in July, 1909. The Census Commission was composed of Dr. Frank P. Foster, chairman of the committee on nomenclature of diseases of the American Medical Association; Dr. Wilmer R. Batt, State registrar of Pennsylvania, chairman of the committee on classification of causes of death of the American Public Health Association, and Dr. Wilbur, more especially representing this bureau. Twenty countries participated in the work of revision, and other countries employ the classification, preferably known as the International List, or have adopted it for use in the immediate future. Among the latter are England and Wales, Scotland, and Ireland, which means its use by all the British colonies, some of which (Commonwealth of Australia and Canada) already employ it. Thus practical agreement in this most important and fundamental feature of mortality statistics is insured among all the English-speaking and Spanish-speaking countries of the globe, besides Belgium, France, Holland, Japan, and many other countries. I hope for the cordial interest and support of the entire medical profession of the United States in making our statistics of causes of death, as received from the registration area, of the utmost accuracy, and in helping to extend the area of complete registration both for births and deaths until the vital statistics of the United States shall be second in completeness and usefulness to those of no other country.

The International List of Causes of Death and a statement of undesirable terms are appended.

IMPORTANCE OF CORRECT STATEMENT.

These are followed by observations regarding the statement of occupation and other important data, in which it is noted that—

The physician's responsibility is usually confined to the correct statement of the cause of death, but he may in some instances fill out the

entire certificate, or he may note errors in the statement of personal particulars, the correction of which will be of service to statistical accuracy, as well as insuring more truthful legal records. Hence his interest is solicited in the completeness and correctness in all respects of all certificates passing through his hands, and more especially in the correct statement of sex, color, marital condition, age, occupation, birthplace, birthplace of father, birthplace of mother, and length of residence, when the latter is required.

Age is of special importance, and as a check on the accuracy of the statement the date of birth is also required. For infants under 1 day old, state the hours, or even the minutes if less than 1 hour old. This is necessary in order that stillbirths may be distinguished with absolute precision from deaths of children born alive. Stillbirths may be registered, under various laws, either as births, as deaths, or as both births and deaths; they should be compiled, in statistical tables, neither as births nor deaths, but separately as stillbirths. A stillborn child is dead at the moment of birth, hence no age whatever, not even 1 minute, should be entered under the statement of age, but the space may be filled with a cipher (0). Conversely, if the child lived any time whatever, even a single minute, after birth, "Stillborn" should not be reported as the cause of death.

Precise statement of occupation is very important, so that the relative healthfulness of various pursuits can be known. The statement should include: (*a*) Trade, profession, or particular kind of work (e. g., Spinner); and (*b*) General nature of industry, business, or establishment in which employed (or employer), whenever the latter is indicated (e. g., Cotton mill).

APPROVAL OF STATE AUTHORITIES.

This leaflet is distributed, with the cordial approval of the State authorities, if any, in States not having any registration of deaths, or having incomplete registration, as well as in those States of the registration area from which transcripts are received by the Bureau of the Census and compiled for the annual bulletin and annual report on mortality statistics.

It is expected that careful observance of the suggestions herein made will result in great improvement in the quality of the registration returns received from registration States and cities, and may also lead physicians in nonregistration States to labor for the enactment of adequate legislation for this important purpose. Advice and aid will be given by the Bureau of the Census, and by the American Medical Association and American Public Health Association cooperating, in compliance with joint resolution of Congress, approved February 11, 1903, the concluding clause of which is as follows:

"Resolved by the Senate ond House of Representatives of the United States of America in Congress assembled, That the Senate and House of Representatives of the United States hereby expresses approval of this movement and requests the favorable consideration and action of the State authorities, to the end that the United States may attain a complete and uniform system of registration."

THE REGISTRATION MOVEMENT.

The progress of the movement for better vital statistics for the United States is briefly summarized, and the essential principles of



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registration, as embodied in the model law adopted by the American Public Health Association and approved by the Bureau of the Census, are stated as follows:

(1) Immediate registration (deaths before interment, births within ten days and, compulsory, not less than three days in rural districts); (2) standard certificates (copies on request); (3) compulsory burial or removal permits for deaths, and some effective check on the accuracy of registration for births (by deaths of infants under 1 year, special enumeration, newspapers); (4) efficient local registrars, properly compensated (25 cents) for each certificate registered and returned in compliance with law only, and so distributed that the least possible inconvenience will be caused physicians and undertakers in filing certificates; (5) sole responsibility for registering deaths and obtaining burial or removal permit in advance of interment upon undertaker or person disposing of body and sole responsibility for registering births, within the time limit set by law, upon the attending physician or midwife (parent in absence of such attendance); (6) an efficient State registrar, with full power and responsibility to enforce the law, in direct connection with the local registrars (any county official intervening in any capacity between the State registrar and local registrars means failure of the law); (7) prompt monthly returns of the original certificates from the local registrars to the State registrar, with report of "No births" or "No deaths" when such was the case and official statement of completeness of registration or report of delinquents; (8) all this is useless to secure complete legal records and statistics of the highest practical value unless penalties are provided in the law and those penalties are enforced.

The worthlessness of a great part of our birth registration laws depends upon the nonenforcement of the penalties of the laws by those officials who are charged with their enforcement, largely from unwillingness to antagonize prominent members of the medical profession who occasionally, or regularly, disregard their duties relative to the registration of births. The profession should encourage the effective administration of such laws by cheerfully and promptly complying with them, and by supporting the efforts of health officers and other registration officials in the performance of their plain duty. Have you failed, Doctor, to record any birth that has occurred in your practice? Your neglect may mean loss of money, lack of proof of legitimacy, difficulty in proof of age for the requirements of school and labor laws, and may perhaps work an irreparable wrong to the child in future years. If so, please complete your service to the family by registering the birth. Do it now!

The Census Bureau will, upon request, supply physicians' reference leaflets, specimen copies of the Revised United States Standard Certificate of Death, and of the model registration law.



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Dr. Katherine L. Storm, of Philadelphia, has placed upon the market a form of abdominal binder and supporter which bids fair to become the most popular of any yet introduced to the profession. This binder took the prize offered by the Managers of the Woman's Hospital, of Philadelphia. It is a light, flexible, washable and durable appliance, without rubber or steel in its construction. It is used for any purpose for which an abdominal supporter may be needed for a man, woman or child. It is applicable for *general* support, and, by means of a reinforcing strap, with pad, it may be used for *local* support as well, for instance, for hernia. It is especially valuable for movable kidney, enteroptosis or Glenard's disease. It is an ideal post-operative binder. It is a great comfort to women during the pregnant and puerperal states. It is readily adjusted and produces no discomfort when worn. Measurements may be taken, and supporters ordered from the manufacturer, Katherine L. Storm, M. D., 1612 Diamond Street, Philadelphia, Pa.

Those who have used the "Storm" binder have been particularly well pleased with it, and for this reason we are anxious that our readers should become acquainted with its many virtues. The company keeps a record of all measurements sent in, so that orders may be duplicated without difficulty or loss of time. All mail orders filled within twenty-four hours on receipt of price.—*Med. Brief.*

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visited her office—for the result see page xxix—and saw an order-list longer than your arm. In that list we happened to note a few pretty decent Philadelphia names, as for example, Beates, Daland, Deaver, Fussel, Hirst, Musser, etc. Evidently they think fairly well of Doctor Storm's bandage even in Philadelphia, or else such names wouldn't have been on that list.

What is good enough for them surely ought to be of some help to you. Why not look into this and see why the best physicians and surgeons in the country are daily prescribing the Storm supporter.—*Physiologic Therapeutics*, November, 1910.

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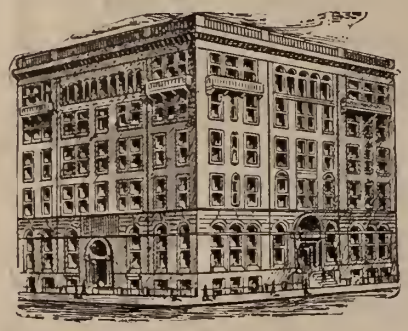
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Vermont Medical Monthly

Official Organ of the Vermont State Medical Society.

Vol. XVII, No. 2. **Burlington, Vt., February 15, 1911** **ONE DOLLAR PER ANNUM SINGLE COPIES 15 CENTS**

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Journal American Medical Association, January 22, 1910, Folio 261.

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Vermont Medical Monthly.

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ORIGINAL ARTICLES.

AN EPIDEMIC OF DIPHTHERIA AT VERMONT INDUSTRIAL SCHOOL.

BY

GEO. F. B. WILLARD, M. D. AND E. H. BUTTLES, M. D.

During the fall and winter of 1909-1910 an epidemic of diphtheria of considerable extent occurred at the Vermont Industrial School. This institution, situated at Vergennes, held, at that time about 120 boys and 40 girls, while officers and employees brought the total number of occupants up to nearly 200. The boys occupied the main building where the offices were also located, while the girls had a separate building and a few of the smallest boys were kept in a somewhat isolated cottage. All however attended school together.

On Oct. 15th, 1909, the matron who had been in charge of the laundry work was taken sick with sore throat, and a culture sent to the State Laboratory was reported Oct. 19th as showing diphtheria bacilli. This case was isolated and it was hoped that no more would develop but another case appeared Oct. 23rd with a positive culture the next day. Cultures were then taken from all occupants of the main building, and fifteen showed the diphtheria organisms, and on Oct. 26th the entire school was placed under quarantine, which lasted until February 3, 1910. Within a few days after these first cases, others appeared among the girls and also at the boys' cottage.

At the time of the appearance of the disease conditions at the institution were very unfavorable. Extensive repairs and alterations were being made, and things were considerably torn up. The old laundry had just been demolished and the new one was not ready so that there were no facilities for washing clothes, bedding, etc., except a few hand tubs in the basement, and there was even no hot water except what was heated on stoves. The school was crowded far beyond its intended capacity, and room for isolation purposes was very hard to find. The children slept in large dormitories which were filled to their limit. There was no hospital or isolation ward whatever, and the question of segregating the patients was a serious one. Much valuable time was necessarily lost at the start in fixing up makeshift isolation wards. With adequate facilities for isolation of the earliest cases it seems very possible that the spread of the epidemic might have been controlled. As it was one of the boys' dormitories was turned into a hospital, as were the chapel and sewing room, and in fact all available rooms were utilized, but the problems of supplying food, bedding, etc., gave considerable opportunity for contact among the children who of course did not understand the nature or value of quarantine.

An offset to these conditions was the attitude of the officers of the institution, from superintendent down, all of whom aided us in every possible way, acquiescing cheerfully in measures that must at times have appeared unreasonable, and that were certainly very irksome. Many of the officers were themselves isolated at some period and this isolation was borne without complaint. The children also were of great assistance, and showed good training in the way they performed the work that was assigned to them.

The source of the epidemic could not be absolutely proven. The patient was closely interrogated as to any possible exposure to the disease, with no result. She had made a shopping trip to Burlington about a week previous to her illness, but had stopped nowhere except at stores, nor had she come into contact with any suspicious case as far as could be ascertained. While possibly the infection may have occurred from some chance exposure on this trip it did not seem at all likely. A careful investigation was then made of all children who had been admitted to the school during the last few weeks. From but one boy was a suspicious history elicited. He had entered the school on Sept. 23rd, and stated that shortly previous to that time he had had a sore throat, and that others in the family where he was living had similar trouble. A doctor was called who treated them but took no culture. Further inquiry showed that on arrival at the institution the boy had

been assigned to the laundry, where he worked under direction of and in close proximity to the woman first attacked. The boy was one of the 15 showing positive cultures at the first examination, though presenting no clinical symptoms. Furthermore most of the other 14 were boys who came into contact with him but not with the officer. The period between the boy's arrival and the first case in the school was longer than might be expected, being about three weeks, yet this appears to us the probable source of the infection. This opinion was strengthened by our observations later, when we found patients harboring bacilli for much longer periods.

When the quarantine was instituted nurses were put in charge of the isolation wards, and all inmates of the institution were given antitoxin, the usual prophylactic dose being 1,000 units. For release from quarantine freedom from all clinical symptoms was required with two successive negative cultures. It was soon found however that discharged patients often returned to quarantine and transition wards were established to which patients were promoted after two negative cultures. They were given an aseptic bath, and their clothing was fumigated or later boiled, and they were held here under observation for several days and until two more cultures were taken. If both were negative they were released. It was at first thought best to have the children out of doors every day if possible, and the laboratory cases or bacilli carriers who presented no symptoms were sent out at certain times under supervision. Various local applications to the throat were used. Loeffler's solution seemed to have some good effect on membrane formation. Weak solutions of silver nitrate were tried without marked results. Massolin, a culture of lactic acid bacilli, was used on a selected group of cases to see if it would aid in removing the diphtheria germs. This was not perhaps tried as long as it should have been, owing to its high cost, but some five or six applications to nose and throat, by means of a spray, were made, with negative results. Argyrol in ten per cent solution was also used, and seemed to have an excellent effect on enlarged, inflamed tonsils and congested throats, which were very common. But as for hastening the disappearance of the organisms none of these applications showed any value. At one time we started to take cultures from some girls but the first swab used showed a liberal coating of argyrol as the nurse had just sprayed the throats. The other cultures were postponed but this one swab was included in the lot sent to the laboratory that day, and in spite of the argyrol, diphtheria bacilli developed from that culture.

In this way affairs progressed till about the first of January with constant variations in the number of cases, encouraging improvements being followed by most discouraging relapses. Baccilli carriers, or laboratory cases, were isolated as found, and all were closely watched. The girls were given a second prophylactic dose of antitoxin about four weeks after the first, while the boys were not so treated, but a slight sore throat or hoarseness was the signal for a prompt administration of antitoxin. On the first of January we found over a hundred laboratory cases in quarantine. Practically none of these were sick but they were harboring bacilli that were virulent as shown by inoculations on guinea pigs at the laboratory. Moreover it was not unusual for clinical symptoms of diphtheria to develop very quickly among these laboratory cases and we considered them dangerous both to others and to themselves. During the two and a half months there had been 160 laboratory cases, about 20 of whom had shown marked clinical symptoms. Of antitoxin 218 doses had been given as prophylactic, 31 as curative. No cases had died, few had been serious, but prospect of removing quarantine appeared but little better than at the beginning.

Under these conditions we decided to adopt more stringent measures and to treat each possible means of infection as if it were the only one. A number of new regulations were adopted, some of them being quite rigid, but results appeared to justify some temporary inconvenience. The new laundry was just installed and we were able to boil clothing and bedding which had seemed a possible means of transmission of the germs. In the main building where nearly all the cases were, the patients, sick or well, were put in bed and kept there without reference to their feelings. With nearly a hundred lively boys this was not an easy task, but we had found it utterly impossible to keep them from mingling freely with each other and to some extent with the outside boys, and we believed the infection was passed about and kept

alive largely in this manner. Fortunately we found a male officer who was willing and able to take charge of this ward, keeping the boys in bed and in comparative peace, and we feel that much was due to his assistance and cooperation. As the boys were put in bed their clothing was sent to the laundry and thoroughly boiled as was the bedding when removed. Several dogs on the place were given an antiseptic bath and shut up, and the cats were killed, as it seemed that these pets, fondled by the children, might transmit bacilli.

More nurses were secured and the nose and throat of everyone in the institution were sprayed twice a day with a mild alkaline solution (Seiler's solution), and argyrol was used on the bad throats. One of the writers remained in the school, gave antitoxin on slightest provocation, examined and cultured all sore throats among those outside of quarantine, and kept watch over the carrying out of the regulations.

From the time these measures were adopted a marked and continual improvement occurred. Only four more clinical cases developed and these among laboratory cases already in quarantine. But 17 more laboratory cases were discovered, and patients were ready for release faster than we could provide clothing, bedding and places for them. On Feb. 3, 1910, the last cases received their final negative culture and the quarantine was removed. Subsequent cultures failed to disclose any bacilli carriers among the inmates of the institution.

During the period of about 15 weeks there were 24 cases of clinical diphtheria with no deaths, 177 laboratory cases, a few of these being repeaters, and 285 doses of antitoxin were given. With exception of a few officers all in the institution were given a prophylactic dose of antitoxin early; in nearly 40 cases this was repeated in about four weeks, while others were given second or even third doses as occasion arose. From none of these cases was there the slightest evidence of any anaphylactic action, in fact no bad effects were observed from any of the antitoxin except two or three cases of evanescent urticaria. The antitoxin was administered just below the shoulder blade, and the patient kept in bed for a period of twenty-four hours after the injection.

Cultures were made to the number of 2,919, of which 553 were positive and 2,366 were negative. Suspicious ones were considered as positive for safety. These cultures were sent to the State Laboratory at Burlington, where they were incubated over night, examined and reported the next morning, and we feel that the institution owes much to the promptness and efficiency of these examinations. For the bacteriological examination cultures were taken from the pharynx, the swab being very carefully rubbed over the pharyngeal walls and tonsils. Nasal cultures were taken in some cases, but the results appeared the same, and in absence of special indications these were not made. Four successive negative cultures seemed to be the least number to give fair assurance that the patient was free from discoverable bacilli, as two or even three negative reports were often followed by a positive. Cultures were taken from those in quarantine for release, and also at intervals from those outside for purpose of discovering bacilli carriers.

As the disease lessened the problem of disinfection loomed large. During the early part of the epidemic fumigation was relied on for the disinfection of rooms, bedding, clothing, etc. Later all clothing, etc., was subjected to thorough boiling. Mattresses and pillows that were in poor condition and of little value were burned, while those of greater value were given a long fumigation, were sprinkled with formalin solution and exposed to sunlight and air for hours or days if possible before use. Beside fumigation of rooms, floor, walls, and furniture were washed with a four per cent solution of formalin or with a five per cent carbolic solution, and the entire plant was gone over in this manner. For the fumigation formalin and potassium permanganate were used.

It is impossible to speak in detail of individual cases, but a few appear to present some features worthy of special notice. For instance a nurse in charge of infected ward was given a prophylactic dose of antitoxin, 3,000 units on Oct. 29th, and on Nov. 9th developed a typical and quite severe case of diphtheria, with marked membrane formation and confirmed by culture. Aside from this single instance antitoxin seemed to confer immunity for at least two or three weeks, though having no effect in securing disappearance of the bacilli.

Another case that seemed of interest was that of a teamster who had an early and severe at-

tack. He had a bad throat and was carefully treated with argyrol spray for some time, and was released only after four negative cultures covering a period of more than a week. The last of these cultures were entirely free from any suspicious organisms, his throat was in better condition than before his illness, and he was in good health when released. Soon after his return to work he was out with his team during a wet stormy day, and returned feeling chilled. The next day he was sick, and bacteriological examination showed practically a pure culture of typical diphtheria germs. It seemed almost certain that these had developed from bacteria remaining on some inaccessible spot in nose or throat; was in fact a reinfection with his own organisms. His illness however was of short duration and not severe.

At least one other case seemed to present two clinical attacks of the disease, a woman officer who had the most severe case in the school. Some weeks after release we placed her in charge of one of the transition wards, thinking she would be immune, but she developed a second case of diphtheria of a mild character. In this case there was probably reinfection, as she came into contact with boys having positive cultures.

The length of time that bacilli remained in the throat varied greatly from a few days to a period of six or eight weeks, or even longer in a few instances. We have made no very definite distinction between clinical and laboratory cases, as we believe that all the latter were potential clinical cases, their development being prevented by antitoxin. There were no post-diphtheritic effects such as paralysis, etc., observed, but following the diphtheria quite a number of cases of Vincent's angina appeared. These were treated with iodine solutions locally applied and gave little trouble.

From our observations and experience during this epidemic we believe the following conclusions to be warranted, as applying to epidemic diphtheria.

1. Bacteriological examination of cultures is absolutely necessary, and at least four consecutive negative cultures, taken on different days should be required for release.

2. Isolation of both clinical and laboratory cases should be as absolute as possible, as both are equally sources of infection.

3. The great source of infection is the contact with an existing case, but clothing and other agents may also have a part.

4. A person may harbor diphtheria bacilli in nose or throat for days or even weeks with no symptoms, when some lowering of vitality may give rise to a clinical case of diphtheria. It has seemed that this condition may be fairly common and may explain some epidemics of uncertain origin.

5. Bacilli may disappear so far as can be determined by cultural methods but a subsequent lowering of vitality may cause a sudden reappearance of the organisms from some inaccessible nidus in nose or throat, and clinical symptoms may or may not develop.

6. Antitoxin appears to be an absolute prophylactic for not over ten days, but a high degree of immunity is produced that lasts for several weeks.

7. Antitoxin will cure diphtheria but should be given early, that anaphylactic effect is at least not common after repeated doses, and that it may be given safely.

8. A nasal spray or irrigation with mild alkaline solution, simply to keep the mucous membrane clear of secretions aids in getting rid of bacilli, and makes spread of infection less likely.

9. Other local treatment is not advisable as a routine measure, but argyrol seems to have a good effect in restoring inflamed tonsils and congested throats to a normal condition.

10. Any institution where many children are kept should have a hospital or ward where patients can be isolated, and where new arrivals can be held for examination.

PARANOIA.

BY

H. D. BONE, M. D.

Assistant Physician Vermont State Hospital for the Insane.

The psychosis to which I shall for a few moments direct your attention is paranoia, or progressive systematized insanity. In the older works on psychietry, you will find this form of mental disease considered under the name of monomania.

In all cases of paranoia, the picture of life presented in its broad outline agrees entirely in the main points. In other words, the symp-

tomatology is quite definite and circumscribed and the course of the disease, when once established is slowly progressive, rarely presenting the episodes, remissions or variations common in many psychoses.

Diefendorf defines paranoia, as a chronic progressive psychosis occurring mostly in early adult life, characterized by the gradual development of a stable progressive system of delusions without marked mental deterioration, clouding of consciousness or involvement of coherence of thought.

Etiology. The disease usually begins between the ages of twenty-five and forty, occurs more frequently in men than in women and constitutes from two to four per cent of the cases admitted to hospitals for the insane.

There is usually a defective constitutional basis either congenital or acquired, defective heredity existing in a very large percentage of cases. In early life the patients are usually somewhat peculiar and eccentric. Some are moody and seclusive, others show perversion of the sexual instinct. Some manifest precosity, being exceptionally bright in their studies and still others are flighty and unstable. A large percentage show physical stigmata. Occasionally business reverses, acute illness, overwork, etc., etc., are the exciting causes which mark the beginning of the psychosis.

Pathological Anatomy. There has not as yet been demonstrated in the brain any definite, unvarying, disease process which is peculiar to this form of insanity. Berkley however, states that in many cases the topography of the cerebral cortex presents abnormalities such as intersection of sulci and malposition of the convolutions.

Symptomatology. The development of the psychosis is so gradual and insidious that in most cases it has been in existence for many years before the act or acts which lead to the patient being adjudged insane and sent to an asylum, are committed.

Usually the first symptom noticed by the family is a change in disposition. Patients become discontented, irritable and suspicious, not only of members of the household but also of friends and of those with whom their business relations bring them in contact.

In many cases there are vague complaints of illness and insomnia. Usually there is a disposition to neglect the daily tasks and displeasure and suspicion is aroused by trivial affairs which formerly would have passed unnoticed. There is an inclination to brood over imaginary slights and they are constantly on the lookout for evidences of unfriendliness. They soon become satisfied, as a result of this careful observation, that all the family are turned against them and openly accuse their friends of unfaithfulness and their employee or fellow workmen of a plot to ruin them.

The ordinary every-day incidents of life such as harmless jests, forgetfulness on part of patrons to pay a bill when due, a bit of horse play, satisfies them that they have enemies on every hand. The presence each morning of a certain individual in the down town car indicates that they are being shadowed, a revolver cartridge found on the sidewalk is proof positive that their life is sought, a newspaper accidentally left on their desk contains a hint, remarks overheard as they pass along the street, prove that their surmises are correct.

A speck of dirt in the food, a tablet found on the floor outside their room, a cut which does not heal readily, a stain on the clothing, are all regarded as a part of a well organized effort to get them out of the way by a slow process of poisoning. All sorts of trivial matters are falsely and absurdly interpreted and are thus woven into the structure of their delusions.

The persistent persecution and the ever increasing attention which they attract, leads them to cast about for a reason, and sooner or later there appear expansive delusions. These may be present at the outset of the disease but usually are the outcome of the delusions of persecution.

The patients ask themselves why they are considered of so great importance, why they attract such universal attention. Some find the answer to these queries in the property which they possess, others in their great personal charms, and still others conclude that it is on account of their marked ability or noble descent.

In some cases this feeling of self importance results in a change of personality and the patient announces himself as an emperor, captain of industry, or a prophet sent by God to fulfill some special mission.

Essentially characteristic of the disease is the great persistency with which these delusions both persecutory and expansive are held and

the coherent system into which they are gradually worked up.

Another prominent feature in this building up or systematization of delusions, is the frequent appearance of retrospective falsification of memory. In reviewing the past life the patient discovers that some event which, although at the time it occurred was not considered of special significance, was in reality an evidence of persecution or of superiority. Incidents which may have transpired in their youth are thus seized upon and presented as conclusive proof of the truth of their present delusions.

At some time during the course of the disease hallucinations are always present, although they do not play an important part in the psychosis nor do they usually persist throughout the course of the disease. Hallucinations of hearing and general sensibility are the most common. Remarks of a deprecatory or insulting character are heard as they pass along the street, as they go by a certain house the children invariably make an outcry for the purpose of annoying them, their skin is irritated by poison which was put on their clothing at the laundry and their hair becomes gray as a result of applications of electricity which are made while they are asleep.

Insight is entirely lacking. All objections that one raises to these false beliefs are received in a superior incredulous manner and do not make the slightest impression. While they are contradicted by every reasonable experience and have not been accurately established by the patient, they are still adhered to with the most extreme tenacity.

Emotionally these patients are irritable and excitable and at first usually inclined to be despondent, but sooner or later all become haughty, domineering and arrogant. Aside from eccentricities such as over self appreciation, religious fervor, peculiarities in dress, etc., conduct is for a long time fairly normal.

Once the disease is well established they usually become somewhat seclusive and as a result of their unstable conduct and manner of life their business suffers and sooner or later they are almost invariably reduced to poverty.

Many of them become involved in endless law suits through their efforts to obtain redress for their numerous imaginary wrongs or in attempts to secure the exorbitant compensation for their services which their over self appreciation leads them to demand. Others will wander from place to place in the hope of eluding their tormentors, but invariably find that their persecutors have either anticipated them or are hot on their trail. Occasionally despairing of obtaining justice through legal processes they will take the law into their own hands.

There is at this time a paranoiac in the hospital who shot at and severely wounded a judge who had given a decision against him. The expansive delusions which they entertain lead them to make all sorts of absurd claims and demands. One gentleman whom we have with us not only owns the entire institution and is possessed of wealth beyond the dreams of avarice, but is under the special guidance of God and has picked up great quantities of diamonds on the exercise grounds back of the hospital. Another has a corner on good tape worms, and one form of persecution to which he has been subjected is the abuse of these pets.

Once habituated to institution life, these cases are usually orderly and well behaved, although prone to air their grievances and to inveigh against being kept in confinement.

Consciousness is unclouded and where papatients are confined in an institution where they are under supervision, they are capable of considerable labor both mental and physical. As a rule they take a natural interest in their surroundings and occupy themselves by assisting in the ward work, reading the papers, chatting with the doctor, etc. Usually after the lapse of years there is noticeable a moderate degree of mental weakness.

The course of the disease is, as a rule, slowly but steadily progressive, but in some instances, as far as can be judged, patients remain in practically the same condition for years. In a few cases there are partial remissions but almost never after the disease is once well established do patients again become capable of looking out for themselves.

The diagnosis then, depends upon the slowness of onset extending oftentimes over several years, the gradual building up of a system of delusions of persecution with retrospective falsifications of memory often associated with expansive delusions, unclouded consciousness,

coherent thought and long delayed mental deterioration.

The prognosis is poor. No case of genuine paranoia ever recovers. This being true about all we can do for these patients is to confine them in an institution. This serves the double purpose of protecting society and keeping them comparatively removed from irritating influences.

Systematic routine with plenty of out of door work and recreation is advisable, as it has a tendency to delay the mental deterioration.

PURPURA HEMORRHAGICA.*

BY

C. W. PECK, M. D.

November 1st, 1909, I was called to see Catherine June, a girl of 7 years, and found her suffering from nausea and vomiting. I gave her calomel tablets gr. 1/10 every hour, following next day with castor oil which produced two or three very small fecal movements from the bowels. This was followed the next day by quite large movements of clear blood, associated with severe pain in the bowels, but not of a dysenteric nature. I concluded there must be some obstruction and that, in all probability, it was intussusception, although I could find no evidence of tumor. I called Dr. Maynard who agreed with me in the diagnosis and it was thought best to have her moved to the Mary Fletcher Hospital to be left under observation and to be operated upon if necessary. On arriving at the hospital she had a movement of the bowels which convinced the doctor that operative measure should be deferred for a time, and she remained under observation there fifteen days and was then sent back to Brandon. It was during this time that she broke out on her legs and arms with purpura hemorrhagica. During her stay at the hospital her temperature ranged from 99 to 100. Her urine was acid, specific gravity 1023, urea 18 grains to the ounce, no blood or albumen, a few hyaline and granular casts. During this stay at the hospital of fifteen days her complaining was from severe pain in the bowels every day. The blood gradually disappeared from the movements from the bowels.

*Read at the Quarterly Meeting of the Rutland County Medical and Surgical Society, October 18, 1910.

She came again under my observation November 19th and remained until December 14th, when she was again sent to the hospital under the care of Dr. Beecher. During her stay in Brandon of thirty days, her symptoms were, severe pain of a spasmotic character, lasting sometimes for a whole night or day or both with torpid condition of the bowels, but at no time did she have any tenderness in her bowels on palpation. These repeated attacks of purpura hemorrhagica would last for five or six days, then gradually fading until nearly gone to be succeeded by another and another, which continued until about May 1, 1910, when they gradually disappeared not to return. The condition of her kidneys from the second visit to the hospital in December has been one of a general inflammation of the kidneys, judging from the condition of her water which contained much blood and albumen with both granular and hyaline casts. This condition continued after she came under my care again the last of June, 1910, and still continues to some extent. The urine still contains blood and albumen with granular casts although the specific gravity and quantity of urine passed per day for the last three months or more has been nearly normal. On October 6, 1910, I examined the urine and found it contained a small amount of blood with albumen and granular casts. The reaction was acid but the specific gravity was 1011 only.

To sum up the case, this child began with very severe pain in her bowels without tenderness on pressure, followed each time with these attacks of purpura hemorrhagica sometimes so severe as to produce bleeding from the vagina. As these subsided, and before, she began passing urine loaded with blood and albumen, and is still doing the same thing only not to so great an extent.

One of the interesting features of this case is that during the last six months with these very serious symptoms the child has developed normally, grown stronger in both mind and body. She does not look sick, eats well, and sleeps and feels well, and goes to school one-half of the day, all she is allowed to. She has all the indications of developing into a strong, vigorous girl with much more than the usual amount of vigor and nerve force.

One of the questions I would like to ask this society is "What was the matter with this patient?"

Purpura hemorrhagica is not a disease, only a symptom and like many other erythemas may attend upon all of the grave diseases associated with a deranged condition of the digestive tract. Why did she not have tenderness on pressure over the abdomen when she was suffering severe pain in that locality and passing blood from her bowels? Has she inflammation of the kidneys and if so what kind of an inflammation of these organs is it that allows one to remain vigorous, feel well, grow strong, and have good color? Can one have blood, albumen, and casts in the water and not have one of the various inflammations of the kidneys we have been taught to recognize by these symptoms? Can one have the usual acute or chronic inflammation of the substance of the kidneys and not fail in strength and vigor?

Dr. John McCrae speaks of various cases of renal hemorrhage occurring in connection with purpura hemorrhagica, likewise scurvy and hemophilia. The kidney has been split open in case of hemorrhage from it and no lesion found, and after the operation the bleeding has ceased altogether. It has occurred to me that the principle of osmosis and exosmosis may play an important part in some of these obscure cases, through nervous influence. All the secretions of the body are regulated by nerve forces, blood may rush from one part of the body to another as in case of fainting, so as to deprive one of his senses, or so as to force blood through a mucous membrane as in normal menstruation. Menstruation is purely a nervous function, not a question of blood, and nervous excitement may produce or arrest the process.

The relations existing between the alimentary canal and the skin are quite as mysterious, and many is the time I have been put to my wits' end to make a differential diagnosis between some of the contagious germ diseases and similar erythemas caused by deranged conditions of the kidneys and digestive organs on my first visit to a case.

In conclusion, I will say, the treatment for this case has been of a bracing character, calomel has been the laxative employed generally when one has been called for, with Fowler's solution and some form of iron. The arsenic is, I think, the remedy most recommended by authors generally and I think has worked best with her. While in Brandon I have tried hard to give her a nourishing but easily digested diet.

Bad Results of Hypoalimentation in Nurslings.—Concetti (*Revista di Clin. Ped.*) describes a condition resulting from hypoalimentation which is similar in symptoms to that resulting from too much food, and is often mistaken for it. Vomiting occurs from emptiness of the stomach; the stools are thin, green, and fetid; the child is restless, crying, and sleepless, and death often comes by convulsions. The symptoms only cause the practitioner to lessen the amount of nutrition, diluting the milk still further and filling the stomach with water. The same condition exists in cases in which the mother's milk is deficient in quality or quantity, or the weak child is unable to draw it from a badly formed nipple. All medicines fail to ameliorate the little patient's condition; laxatives, astringents, digestives and calming drugs all fail. Only addition of more nutriment aids the child. The doctor gives illustrative cases. He uses in addition to increased nutrition a solution of the digestive ferments, pepsin, pancreatin and amylose, with lecithin, lactic and hydrochloric acid, in water and alcohol.

Ergot in Labor Cases.—H. Walther has found that ergot given before the extraction of the placenta will often cause a spasmodic contraction of the lower segment of the uterus which will render the extraction very difficult. He never uses this drug before or while the child is born, but finds that several doses of 0.5 gm. of quinine sulphate or bisulphate are excellent to stimulate the activity of the uterus. As soon as the placenta has been expelled from the womb, large doses of ergot (secacornin) hypodermically or by mouth are indicated. Every obstetrician should also carry in his bag some suprarenin, which may be given intramuscularly or directly into the uterine muscle in severe post-partum hemorrhage.—*Muench. med. Woch.*

Col. Horse Fly—Come and lunch with me today, old man. The stable is just around the corner and there is a pig pen not far from here.

Hon. Typhoid Fly—Not for mine, Colonel—not while there are pitchers of cream, babies' nursing bottles, roast beef and ice cream in the Smiths' dining room and nothing to keep us out.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D.,
B. H. STONE, M. D., } .....*Editors.*

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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

BURLINGTON, VT., FEBRUARY 15, 1911.

EDITORIAL.

In these days of agitation along the lines of preventive and state medicine, it requires some courage to tear down any of the carefully built up ideas of the spread of disease, but it is only fair to all concerned that the bugaboo of ice infection be exposed. We have come to look upon ice as such a real danger in the spread of typhoid fever that it comes as something of a shock to find that the best authorities on epidemological problems are unanimous in mininizing this source to the extent of practically wiping it out as a factor in the spread of typhoid fever and yet they are unquestionably right. The physical change of freezing water kills a large number of the bacteria contained therein and if these organisms are not contained in masses of suspended organic matter, it probably practically exterminates all typhoid germs. Furthermore, the freezing exerts a mechanical effect tending to force the germs out of the ice into the water beneath. The changes produced in a water by freezing are markedly noticeable not only in the bacterial content but also in its chemical constituents so that one would hardly recognize a water before and after freezing as the same from the analysis. Furthermore, it must also be taken into consideration that if the ice was equally subject to contamination with water and was not subject to any of the natural purification processes, it could not, on account of its relatively small use, constitute a factor for over two-thirds of one per cent water borne typhoid fever. In the light of our present knowledge many of the classic instances of ice produced typhoid fever, do not stand the test. Of course, it is better for aesthetic if no other reasons to get ice from as pure water as possible, but there is no question but that many of the local restrictions in regard to ice collecting are useless and productive of much unnecessary inconvenience and expense.

The recent studies on anaphylaxis and the possible connection of this condition with asthma are interesting and instructive. Anaphylaxis may be defined as the excessive sensitiveness of the normal organism to the addition of foreign albumen through other sources than the intestinal tract. This addition of foreign albumen stimulates the formation of anti-bodies in the organism by means of which the complement, on the second injection of the same albumen, forms from it clearage products which may be intensly virulent acting poisons. Examples of anaphylactic reaction are the serum sickness sometimes following the injection of antitoxin; the tuberculin reaction and quite possibly true spasmodic asthma which in its manifestations resembles an anaphylaxis reaction. It seems possible that asthmatics are individuals who are sensitized to a definite protein substance and the asthmatic attacks take place when the same protein substance again enters the body in the same manner; this has been definitely established in the case of hay fever asthma.

NEWS ITEMS.

A daughter was born January 7th to Dr. and Mrs. R. S. Morse of Ashland, Mass. Dr. and Mrs. Morse were formerly Burlington residents.

Dr. Diego Delfino has left Barre, Vt., and is now located in Canton, Ohio.

Dr. William McFarland, Harvard, 1908, has located in Barre, Vt.

On Wednesday evening, January 18th, Mrs. Claud M. Campbell, Rochester, Vt., presented the doctor with a baby boy whom they have already named James Batchellor after Mrs. Campbell's father of Bennington, Vt.

Dr. J. B. Hall, who formerly practiced in Franklin, Vt., is now located in St. Albans.

A reorganization of the staff of physicians and surgeons at the Margaret Pillsbury Hospital of Concord, N. H., was occasioned by the resignation of Dr. Granville P. Conn. Dr. Ralph E. Gallinger succeeds to the medical staff and Dr. Chauncey Adams is transferred to the surgical department. The assignments for the present quarter are Dr. Sibley G. Morrill to medical duty and Dr. Chauncey Adams to surgical staff.

Dr. I. S. Coburn of Milton has been confined to his home for several weeks with general septic infection. During his severest illness, Mrs. Coburn presented the doctor with a baby boy.

The American Society of Medical Sociology, with headquarters in New York, is a new organization formed for the purpose of studying the intimate relationship between disease and the social economic system. The society as a whole will be devoted to studying those questions which are covered only in part by other organizations. Some of the questions now under consideration by members are: The need of a Federal Department of Health.

Tuberculosis as an economic disease.

Is there any demonstrable relationship between the strain of our modern life and the increase of insanity?

Is cancer on the increase, and if so, what are the probable etiologic factors?

What are the best, i. e., the most humane and most effective methods of dealing with prostitution?

The best methods of preventing venereal infection?

Is complete sexual abstinence (a) likely to impair the general health? (b) likely to result in impotence?

The relative influence of heredity and environment on the physical, mental and moral characteristics of the offspring.

The question of marriage and divorce.

Is the regulation of conception morally justifiable, and if so, what are the best methods?

Abortion in its medical and ethical aspects.

Alcohol (a) as a beverage, (b) as a medicine. Its physiologic, medicinal, social and economic effects.

Infant mortality. Its principal causes and prevention.

Occupational or trade diseases.

Food adulterations and their influence on health.

The causes of quackery, Christian Science and other cults, and the influence of the irregular cults of medicine on public health.

The results of these investigations will be disseminated by means of meetings, lectures, reports, pamphlets, etc. The officers are, Honorary President, A. Jacobi, M. D., L. L. D., President Wm. J. Robinson, M. D., Vice-Presidents, Wm. L. Holt, M. D., and James P. Warbasse, M. D., Secretary, A. C. Jacobson, M. D. The dues are $1 per year. Any information concerning the organization may be had by addressing the American Society of Medical Sociology, 12 Mt. Morris Park, W., New York.

The National Confederation of State Medical Examining and Licensing Boards will hold its twenty-first annual meeting in Chicago, Illinois, on Tuesday, February 28, 1911, at the Congress Hotel. The subjects to be taken up at this meeting will be a consideration of the State Control of Medical Colleges; a report by a special committee on Clinical Instruction; a report on a proposed Materia Medica List by a special committee; the report on a paper presented at the St. Louis meeting by Mr. Abraham Flexner, of The Carnegie Foundation for the Advancement of Teaching; and some special papers on such subjects as the Regulation of Medical Colleges, Necessity for Establishing a Rational Curriculum for the Medical Degree, and others by men eminently qualified to prepare papers upon such subjects.

These topics are all of practical and vital interest to medical colleges, medical examining

boards, the profession at large and the public. The symposium will be composed of ten papers and be presented from the viewpoints of State law, *medical colleges, State medical examining and licensing boards and the medical profession.* The contributors of papers to the Symposium on State Control of Medical Colleges are men of the highest attainment in matters pertaining to State, law and the medical profession, and their production will be worthy of the most careful consideration. The chief object of the Symposium is to determine, as far as possible, the feasibility of placing Medical Colleges under State Control. The special committee on Materia Medica made a report at the St. Louis meeting of the Confederation, June 6, 1910, and it was continued and instructed to report again at the next annual meeting of the Confederation in 1911. The report of this committee made at St. Louis has received very favorable comment by many of the editors of medical journals, and should receive at the Chicago meeting extended and careful consideration. The report on Mr. Flexner's paper is published in the proceedings of the St. Louis meeting of the Confederation, page 64, and will be open for discussion at the Chicago meeting.

An earnest and cordial invitation to this meeting is extended to all members of State Medical Examining and Licensing Boards, teachers in medical schools, colleges and universities, delegates to the Association of American Medical Colleges, to the Council on Medical Education of the A. M. A., and to all others interested in securing the best results in medical education.

The officers of the Confederation are: President, J. C. Guernsey, M. D., 1923 Chestnut Street, Philadelphia, Pennsylvania; secretary-treasurer, George H. Matson, M. D., State House, Columbus, Ohio.

Dr. John B. Murphy of Chicago, President of the American Medical Association, gave a special clinic at the New York Post-Graduate Medical School, January 6th, on Bone and Joint Surgery.

The American Journal of Clinical Medicine has taken over the *Chicago Medical Times,* which will beginning with the January number be published under the same management as the *Journal of Clinical Medicine.*

Efforts to oust the trustees of the American Medical Association and throw the bitter factional fight in that body into the courts yesterday took the form of a suit to compel State's Attorney Wayman to begin ouster proceedings against the trustees.

Dr. G. Frank Lydston, head of one of the warring factions, and who appears in the present suit as complainant, charges that the association has been run as an "autocratic and despotic corporation," and that it has been doing business illegally for ten years.

The rank and file of the physicians who make up its membership, according to his assertions, have nothing to say about the management of the association.

The mandamus suit, filed by Attorney Seymour Stedman and Charles H. Soelke, revealed that efforts had been made to procure Mr. Wayman's signature to quo warranto proceedings against the trustees in June of last year, but that Mr. Wayman refused to attach his name to the document.

So Dr. Lydston and his followers carried their fight to Springfield. There the attorney general refused to sanction the proceedings, which required his sanction under law.

The only means now open to the Lydston faction is that of compelling the state's attorney, by court order, to sanction the ouster proceedings.

The trustees who have aroused Dr. Lydston's ire are Drs. Frank J. Lutz, W. W. Grant, C. E. Cantrell, N. L. Harris, William Councilman and C. Dougherty.

The chief contention in the suit is that the election at which these trustees obtained office was held in St. Louis. Dr. Lydston's lawyers assert that this was illegal, as the association is an Illinois corporation.—*Exchange.*

With the avowed object of correcting abuses in the medical profession, securing political representation and a general betterment of conditions for physicians and surgeons, the American Medico-Political Reform League has been launched in Chicago.

The league received its incorporation papers from Secretary of State Rose Dec. 30, and will hold its first meeting and election of officers some day this week. The incorporators, who also

are directors, are the following physicians: J. E. Waggoner. F. Tice, Lewis H. Bremerman, O. Tydings, Ralph H. Wheeler, M. G. McHugh, G. Frank Lydston, James E. Stubbs, George F. Butler, Adolph Gehrman, Charles C. O'Byrne, Henry F. Lewis and R. R. Duff.

The purpose of the league as set forth in the charter is in part as follows:

"To procure the establishment of a national bureau of health, divorced from politics; the establishment of a uniform standard of medical requirements in the several states of the union; encouragement and coöperation with all movements and legislation for food reform which shall be fair and impartial and founded on scientific premises; encouragement of political preferment of physicians as tending to secure just representation for the profession; encouragement of measures for the correction of hospital and dispensary abuses of charity."—*Exchange.*

Property estimated in value at $50,000 or over, will eventually come to the possession of the Rutland City Hospital Association of Rutland, Vt., according to the will of the late Mrs. Clara B. Senton, who died January 13th, at her home on South Main Street, Rutland. The gift, in memory of Napoleon R. Bardy, Mrs. Senton's first husband, is the largest which the institution has ever received and is to be known as the Napoleon R. Bardy memorial fund. An unique feature of the bequest is, that it is entirely without restriction. No stipulation has been made as to its use and the Rutland City Hospital Association will have the privilege of retaining or disposing of the property as circumstances warrant.

Miss Emilie Grow of Burlington and Dr. Fred Elton Steele, Jr., of Waterbury, were married February 1st, at the home of the bride. Dr. and Mrs. Steele will reside in Waterbury.

Dr. Thomas F. Cotton, McGill University, 1909, has returned from a year's study abroad and has associated himself with Dr. John H. Gleason of Manchester, N. H.

The New Hampshire Legislature this session has six doctors in the house, two in the senate and there is one doctor in the governor's council. An optometric bill has been introduced and a new law is proposed to supersede the present medical law.

Dr. A. L. Morden has sold his property in Claremont, N. H., and is now located at Shirley Station, N. H. His health is now better.

Dr. George T. Stewart, former superintendent of the Metropolitan Hospital, New York, and Dr. Ralph W. Thompson were sued by Mrs. Clara Newman because they performed an autopsy on her sister. A verdict for $300 was returned against them. Mrs. Newman admitted that she signed a permit allowing the autopsy but she said the physicians told her she had to do so before her sister's body could be removed.

Dr. Willard Clough, formerly of Bethel, Vt., has taken the office in Enosburg Falls, Vt., formerly occupied by Dr. C. A. Pratt, who is now located in Norway, Me.

A meeting of the Caledonia County Medical Society was held at St. Johnsbury, January 11th. Dr. C. H. Beecher of Burlington gave a paper on the management of a case with sugar in the urine.

OBITUARY.

Dr. Frederick Smith Hutchinson, a long time resident of Enosburg Falls, died January 6th from heart failure following an operation the night previous. Dr. Hutchinson suffered internal injuries in a runaway accident a few days previous. An intestine was torn and the operation was made necessary. Dr. Hutchinson was born March 27th, 1861, in Enosburg Center, where he received his early education in the public schools. He was graduated from Montpelier Seminary in 1877 and in 1882 from the Medical Department of the University of Vermont. He immediately settled in Enosburg Falls where he had practiced ever since. He was active in state and county medical societies, was first health officer of the town, a position he held until a few years ago and was a member of the legislature in 1904. He is survived by a wife and one brother, Dr. W. W. Hutchinson.

Dr. George F. Wilbur, aged 72 years, died January 22 at Nashua. He was a graduate of Long Island Medical College and had practiced in Nashua since 1867.

Mrs. Clara B. Senton, wife of Dr. B. C. Senton of Rutland, died January 13th, 1911.

Dr. Edwin D. Hutchinson of Westfield, Mass., died of pneumonia at his residence Jan. 19, 1911, aged 70 years. He was a gradnate of the Medical Department of U. V. M., 1875. Dr. Hutchinson was a physician of the old school and enjoyed a large patronage. He was connected with Noble Hospital since that institution was organized and a member of the consulting board at the time of his death. He is survived by his wife and three sons.

BOOK REVIEWS.

Modern Treatment.— The Management of Disease with Medicinal and Nonmedicinal Remedies. In contributions by American and Foreign Authorities. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia; Physician to the Jefferson College Hospital, Assisted by H. R. M. Landis, M. D., Director of the Clinical Department of the Phipps Institute. Lea & Febiger, Philadelphia and New York.

Most of the works on practice are lamentably deficient in treatment. The most important contribntions to this subject are works already written by Dr. Hare and this two volume publication edited by him and contributed to by such men as Agramonte, Park, Potter, Wilson Wood and many others of equal repute will we anticipate be welcomed by the general practitioners.

The book is made up of three parts, the first general considerations, the second the treatment of diseases by nonmedicinal measures and the third treatment of infectious diseases.

Essentials of Laboratory Diagnosis.—Designed for Students and Practitioners. By Francis Ashley Fraught, M. D., Director of the Laboratory of the Department of Clinical Medicine and Assistant to the Professor of Clinical Medicine, Medico-Chirurgical College, Etc. Second Revised Edition, Philadelphia. F. A. Davis Company, Publishers.

This work makes no pretentions of being an exhaustive treatment of the subject but aims to present in a convenient and practical manner a selection of the best and most reliable methods and for the purpose for which it was intended is more useful than a more voluminous treatment would be. It covers all the laboratory technique which is practicable for any except a specialist and treats of these subjects with a sufficient clearness to be useful for both laboratory and general practitioners.

A Compend of the Active Principles.—With Symptomatic Indications for their Therapeutic Use. By Harold Hamilton Redfield, A. B., M. D., Associate Professor of Therapeutics, Bennett Medical College, Chicago, Professor of Therapeutics and Physiology, Reliance Medical College, Chicago. The Clinic Publishing Co., Chicago.

This book is a very meaty little work covering in a concise, well systematized and withal a thorough manner the subject indicated by its title. It will be of great value to the ever increasing number of those giving their drugs in this form.

Hydrotherapy.—A Treatise on Hydrotherapy in general; Its Application to Special Affections; the Technic or Processes Employed; and Use of Waters Internally. By Guy Hinsdale, A. M., M. D., Lecturer on Climatology, Medico-Chirurgical College of Philadelphia. Octavo of 466 pages, illustrated. Philadelphia and London. W. B. Saunders Company, 1910. Cloth, $3.50 net.

The therapeutic action of water has been known since the earliest times and various water cures have waxed and waned. This book treats in a scientific way the subject of hydrotherapy and can well find a place in the library of any general practitioner who is sure to have many cases to which this method of treatment can be properly applied.

A Manual of Diseases of the Nose, Throat, and Ear. —New Second Edition. By E. Baldwin Gleason, M. D., Professor of Otology at the Medico-Chirurgical College, Philadelphia. Second Revised Edition. 12mo. of 563 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Flexible leather, $2.50 net.

This little manual on the nose, throat and ear met a generous reception in its first edition showing that there was a distinct place for a concise manual on this subject. The second edition brings the book thoroughly up to date.

It is well illnstrated and clearly paragraphed with plain catchy headings for easier reference and is in every way a good book.

An Epitome of Hygiene and Public Health.—By George M. Price, M. D., formerly Inspector New York State Tenement Commission, Medical Sanitary Inspector, New York Department of Health. 12mo. 255 pages. Cloth, $1.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910. (Lea's Series of Medical Epitomes. Edited by Victor C. Pedersen, M. D., New York.)

The author's experience in practical sanitation together with his experience as a writer guarantees the character of any work put out by Dr. Price.

While we believe that epitomes are rather dangerous books to put into the hands of students this one is well enough filled with descriptive matter to minimize the objection to such a work. It contains a great deal of valuable information carefully arranged.

A Text-Book of Bacteriology.—A Practical Treatise. For Students and Practitioners of Medicine. By Philip Hanson Hiss, Jr., M. D., Professor of Bacteriology, College of Physicians and Surgeons, Columbia University, Palo Alto, California, and Hans Zinsser, M. D., Associate Professor in charge of Bacteriology, Leland Stanford, Jr. University, Palo Alto, California. Price, $3.75. D. Appleton and Company, New York and London.

This book is a real addition to the literature on this important subject as it takes up the subject from a broad point of view apt to be lost in a work on bacteriology, and is in no way a mere catalogue of pathogenic bacteria. The text is full and written in a way to make the book extremely readable. The illustrations are unusually good. We congratulate the publishers on bringing out this work.

The Prevention of Sexual Diseases.—By Victor G. Vecki, M. D., Ex-President San Francisco German Medical Society, Member American Urological Association, Americal Medical Association, California State Medical Society. Price, $1.50. With Introduction by William J. Robinson, M. D. The Critic and Guide Company, New York.

This book takes up a subject which until very recently has been tabooed yet one that every one must honestly admit is of tremendous importance. Admitting the desirability of the prevention of the social evil any honest physician must admit the practical impossibility of this and in the stamping out of sexual diseases which are a menace to the innocent as well as to the guilty any knowledge of methods of prevention is to be encouraged.

Primer of Hygiene.—By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia, and Joseph S. Caldwell, Professor of Biology, George Peabody College for Teachers, Tenn. Illustrated by Karl Hassman and Hermann Heyer. World Book Co., Yonkers-on-Hudson, N. Y.

This is the third of a series of like books intended for use in schools. Like its predecessors on Bacteriology and Sanitation this primer of Hygiene is a model for its purpose and we can not recommend it too strongly. The subject matter is so carefully selected and treated in such a graphic manner that it cannot fail to make an impression on the mind of the young.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

CONCERNING 606.

By Dr. C. Rosenthal (*Berl. klin. Woch.*, November 21, 1910). The author has had an opportunity to observe a case of hereditary syphilis in which an injection of 606 given to a nursing mother, was not followed by any improvement in the infant. On the contrary the symptoms in the child became worse, so that it was necessary to resort to the familiar treatment with mercury, with results which were most satisfactory.

CONCERNING THE EFFECT OF EHRLICH'S ARSENOBENZOL UPON THE LUES OF CHILDREN.

By Dr. Richard Kalb (*Wiener klin. Woch.*, No. 39. Page 1378). The author gives the history of a child four weeks old that was treated with 606. The mother suffered from a return of a roseolar rash at the time of the birth of the child. As for the child there were no symptoms of syphilis at birth. The Wasserman reaction was negative. An eczema of the anus healed quickly with a carbolized oil. The mother was treated with calomel. During the first 13 days the infant gained 180 g., but was pale and apathetic. On the 14th day the abdomen became greatly distended and rales were heard all over the lungs, but there was no dullness. The liver edge was three fingers below the free border of the ribs. Spleen not palpable. On the 18th day blue-red, hard papules appeared on the face and buttocks. The Wasserman was positive. On the 22nd day there were papules on the under lip and on the palms and soles of the hands and feet. The liver and spleen were greatly enlarged. At this time 0.02 g. of 606 was given. Following the 606 the temperature rose and then fell to normal. Two days after the injection the edema of the lower extremities and the distension of the abdomen had disappeared. The papules were rapidly disappearing. It was thought that the child would live. Two days later (24th day after birth and four days after injection) the condition of the child was stationary. The papules were all gone, except those on the under lip. There was still some pigmentation where the papules had formerly been. The following day the temperature suddenly fell, the child became very pale, and the breathing was bad. Death occurred two hours later.

Post Mortem.—Diffuse serofibrinous pleurisy of both sides, with a mild grade of atelectasis of the right lung. Papules on the lower lip, syphilitic osteochondritis, gumma of the liver, interstitial hepatitis, induration of the pancreas, enlargement of the spleen, gumma of the kidney, acute parenchymatous nephritis, and hemorrhages into the mucous membrane of the ureters and bladder. There was a high grade of anemia.

Chemical Examination.—There was no trace of arsenic in the liver.

Spirochætæ were found in none of the organs, with the single exception of the liver where a very few could be found.

The author does not believe that the injection of 606 was the cause of death. He places emphasis upon the absence of arsenic from the liver and upon the syphilitic changes which had previously taken place in the various organs of the body, more especially the kidneys.

Second Case.—Child four months old. According to the history the condition had been present for three weeks. A dirty yellow discoloration of the skin. Many papules on the face, body, and palms of the hand and soles of the feet. A marked coryza was present. Periosteal thickening in the region of the epiphyses. Pseudo-paralysis of the upper extremity.

An injection of 0.02 g. of 606 was given. This was followed by a moderate rise of temperature. Two days after the injection the skin lesions had almost disappeared. Seven days after the injection the pseudo-paralysis was gone, and the enlargement of the ends of the bones had nearly disappeared. Eleven days after the injection the child began to gain. Two weeks after the injection the Wasserman reaction was positive. Twenty days after injection fresh syphilitic papules appeared, so that on the twenty-third day a second injection of 0.1 g. was given. Two days later all symptoms of syphilis had disappeared.

Third Case.—The child was three weeks old. A family history of syphilis. Has all the classical symptoms of congenital syphilis. The Wasserman reaction is positive. An injection of 0.03 of arsenobenzol was followed by a rapid clearing up of all symptoms. The temperature remained normal. Twelve days after injection the Wasserman reaction was still positive.

Two Cases.—The history in both cases was of fourteen days' duration. Symptoms of syphilis marked in both cases. They both received an injection of 0.03 g. of 606. Temperature remained normal. The first case showed no symptoms at the end of twelve days. The symptoms had almost disappeared in the second case at the end of four days. (Cases not reported for a longer time.)

The author concludes that arsenobenzol can be used with good results in infants. So far as his own experience goes the remedy is a safe one to use even in very young children.—*Exchange.*

THE RELATION OF THE WASSERMAN REACTION TO SYPHILIS, ESPECIALLY IN CASES TREATED WITH 606.

By Dr. C. Lange (*Berl. klin. Woch.*, page 1656). The author presents the case of a nursing infant treated twice with an injection of 0.015 g. of 606. This child had a maculo-papular exantheme. After treatment the child gained in weight, the skin eruption disappeared, and there were no further symptoms for three and one-half months, when a staphylococcic pemphigus appeared, which was not like that of syphilis either in form or localization. A third injection of 0.02 g. of 606 was given. The pemphigus underwent spontaneous cure, and since that time the child has steadily improved.

A REPORT UP TO THE PRESENT TIME OF THE RESULTS OF THE TREATMENT OF SYPHILIS WITH THE PREPARATION OF EHRLICH-HATA (120 CASES).

By Dr. Pick (*Wiener klin. Woch.*, No. 33, p. 1196). This child was four months old. The diagnosis of congenital syphilis was based upon a maculo-papular eruption. This eruption quickly disappeared after the injection of 0.06 g. of 606.

THE TREATMENT OF SYPHILIS WITH 606.

By Dr. Karl Junkerman (*Med. Klin.*, page 1392). The author's first case was a child with a marked eczematous rash. The cry was hoarse. The soles of the feet were glistening and beginning to scale. After an injection of 606 the condition of the child improved and it gained in weight.

The second case was a nursing infant a few months old. There were absceses over the entire body. The glands of the neck were swollen and there were symptoms of compression. The child was moribund. The Wasserman reaction was not made.

EXPERIENCE WITH EHRLICH'S REMEDY, 606.

By Dr. C. Fraenkel and Dr. Grouven (*Münch. Med. Woch.*, No. 34, page 1773). The authors saw a very good result follow the injection of 0.05 g. of 606 in a six weeks old marasmic child. The child was upon the breast. Calomel did not stop the increasing atrophy.

In a second case of hereditary lues 0.05 g. was given. The child was two months old and suffered from epileptiform attacks, which ceased after the injection of 606. As the attacks returned the authors were forced to give a second dose of 0.1 g. of 606. The epileptiform attacks did not return after the second injection. The infant also suffered from an exantheme and a periostitis, both of which conditions healed rapidly after treatment.

OBSERVATIONS ON 503 CASES TREATED WITH DIOXYDIAMIDOARSENOBENZOL.

By Dr. Wechselmann (*Deutsch. med. Woch.*, No. 32, page 1478). The author mentions among his cases a nursing infant with a marked syphilitic pemphigus, with a nasal discharge and with gangrene of the ends of the fingers. After receiving 0.015 g. of arsenobenzol the skin condition became much better, but in spite of this fact the child died, showing many severe changes in the internal organs. Among other conditions there were multiple broncho-pneumonic patches and lung abscesses, and luetic ulcers of the intestines. He does not mention any conditions which would indicate that there were any injuries which could be ascribed to the remedy.

THE PREVENTION AND TREATMENT OF TYPHOID FEVER WITH ANTITYPHOID VACCINE.

In the *Boston Medical and Surgical Journal*, Jan. 5, 1911, F. F. Russell, M. D., Major in the Medical Corps

of the U. S. Army, discusses the use of vaccines in the prevention and cure of typhoid fever. Unlike malaria or yellow fever, typhoid is spread in various ways, so that the prevention of exposure is difficult and the immigration of the individual becomes of great importance. In the army especially is the disease important, as conditions at times must be such as to facilitate the spread of such infection. During the Civil War there were 80,000 cases in the Northern Army, and over 20,000 in the American Army during the Spanish War, while the British had 31,000 cases in the Boer War. Therefore it is natural that immunization should be attempted in armies, and it has been so tried in English and German armies with considerable success. In Washington, at the Army and Navy Medical School, vaccination has been carried on for nearly two years, and up to Dec. 1, 1910, over 44,000 doses had been given, in most cases three injections being given to one person. The vaccination causes a slight local and general reaction, but not severe enough to produce any marked discomfort, or to deter from further vaccination. Agglutinins appear in the blood in from five to eight days, giving Widal reactions even in high dilutions, and there is an increase of opsonins. It appears that no negative phase of any importance results from the inoculations. The vaccine is made from cultures of bacteria, sterilized by heat or antisepsis, of which formalin appears quite efficient.

Among the portion of the army vaccinated the rate of typhoid has been but one fifteenth the rate among those not so treated. Among a company of troops going from Washington to army manoeuvers, part only received the protective vaccination. Living under the same conditions none of those so treated developed the disease, while of the others 25 per cent. were attacked. As a curative measure the author has given reports of 118 cases, reported by different men, with five deaths, and while the number is small, the results seem favorable, and those using the treatment seem to favor it. Dr. Russell believes that vaccination is entirely harmless, and that it reduces both the number of cases and the death rate.

THE SITUATION AS REGARDS SALVARSAN (606).

W. A. Pusey, Chicago (*Journal A. M. A.*, January 14), states that indications at present are very strong that we are on the verge of a period of indiscriminate and reckless use of Ehrlich's new remedy 606, or salvarsan, as it is known commercially, that will result in disappointment in that valuable remedy and—what is more important—in damage to many syphilitic patients, chiefly, let us hope, from neglect of established measures of treatment. To cure syphilis was Ehrlich's aim. The new drug was to be a *therapia sterilisans magna*—to destroy by one massive dose of a "parasitotropic" remedy all of the infecting organisms in a syphilitic patient. In the light of even the brief present experience with 606, it may be said with confidence that the agent has failed in this magnificent aim. It is not a *therapia sterilisans magna*; it does not destroy the infection; and it does not rid the syphilitic patient of his syphilis. The belief that salvarsan cures syphilis in man depends on the following considerations: 1. The destruction of the spirochetes. 2. The reversal of the Wasserman reaction. 3. The removal of the clinical manifestations of syphilis. The evidence is becoming increasingly strong that salvarsan does not permanently and completely cause any of these results. It has a striking effect on spirochetes, but the sudden disappearance of spirochetes from lesions is no evidence of an overwhelming attack on the disease. The drug may cause the disappearance of spirochetes from chancre within twenty-four hours and greatly reduce the number, or cause their disappearance from deeper lesions—but mercury may do the same thing. If one were to take any warning from the accumulated experience of generations in syphilis, it would lead him to expect that the apparent disappearance of the spirochetes was but a lull in the invasion and that they would return. And that is exactly what is coming to light. Disappearing spirochetes are returning, it may be, even at the site of the original lesion, where their disappearance has been regarded as of such significant importance. The most important evidence as to the value of 606 is the effect on the clinical manifestations of syphilis; and here experience indicates great variability. These variations extend from cases which are "refractory" to the drug, and show no effect, to cases in which strikingly good results are seen. As a rule, there is in active early syphilis—the stage at which most would be expected from a remedy that cured—distinct and positive improvement. Sometimes the symptoms entirely disappear—as happens from mercury or even without treatment—but that, even in these cases, no cure is obtained, is shown by the definite tendency to recurrence that the later literature is revealing. Of the dangers of salvarsan we are least able to speak at present. We do not fully know them. The evidence is large that immediate risk of serious accidents from the remedy are small. But enough is known to show that dangers exist. There is good ground for the belief that a larger proportion of serious accidents are occurring than would be estimated from the literature. There is great diversity of opinion about technic of efficient administration. Injections in neutral emulsion, in alkaline solution, or mixed with oil, into the subcutaneous tissue, into the muscles, or into the veins, or combinations of these various methods of administration are succeeeding each other. The hope of a *therapia sterilisans magna*—the complete destruction of the spirochetes of syphilis in an infected patient—is practically abandoned, and two or three or more injections are being used. And, finally, the recommendation of the use of salvarsan and then mercury, as heretofore, is the last evidence that the new agent is not equal to its proposed mission. It cannot be emphasized too strongly that the situation with 606 is still experimental. Our present experience shows that it does not cure syphilis and that we are not justified in holding out to patients any hope of cure by it, but that it is likely to prove a useful remedy in syphilis, with mercury, however, as before, our chief dependence.

GASTRIC AND DUODENAL ULCER.

J. N. Hall, Denver (*Journal A. M. A.*, January 14), remarks on the diversity of medical opinion as to gastric and duodenal ulcers, their frequency, symptoms, etc. He gives the results of his experience, which probably includes a more severe type of cases, they being mostly operative ones, than would be encountered in a large dispensary or family practice. In a former paper he gave his conclusions from operative cases but thinks they were probably somewhat erroneous from the fact of their being only such. His

further study, however, has confirmed his previous opinion as to the most constant and valuable signs for the diagnosis of ulcer. They are pain 82 per cent., persistent sour stomach, 80 per cent., tenderness, 70 per cent., vomiting, 66 per cent., rigidity, 60 per cent. This paper gives their frequency in the operative cases. Vomiting of blood occurred in 93 operations 17 times, and melena was noticed in 9 cases, giving a total of 28 cases in which blood appeared, either vomited or passed. He classes the ulcers in his cases, as gastric, pyloric, and duodenal, there being 14, 61 and 15 respectively of each class. In three cases, in which operation was done elsewhere, he did not learn the exact location. The overwhelming majority of ulcers demanding operation are evidently close to the pylorus and he thinks many physicians would call some of his pyloric cases duodenal. In 12 of his 61 pyloric cases only an obstructing scar of a previous ulcer existed. Cancer was proved in six cases with definite evidence as to ulcer as the starting point, and no one can properly say that ulcer is not a frequent cause of cancer. The mere fact that, in the milder type of cases occurring in average family practice, cancer is not often noted is not to be balanced against such a showing. His former conclusion that pyloric ulcer is likely to lead to permanent obstruction if it heals, or to cancer if it does not, is confirmed by his later experience. If medical treatment does not give a practical cure in a few months he does not feel justified in continuing it and thinks it is unfortunate that the text books do not counsel surgical treatment more. Since the introduction of modern gastro-enterostomy he has seen no case of "vicious circle." He is satisfied, however, that excision of ulcers involving the pylorus is not practiced often enough and he believes that Rodman's operation is demanded if much infiltration exists around the ulcer. Hall also thinks that more attention should be given to the signs and symptoms and less to the laboratory findings if we are to make correct diagnoses. A reliable history of continuous sour stomach is of more value than gastric analysis, and a history of hematemesis than a report of occult blood in the stools. Rigidity and tenderness as determined by the trained physician, outweigh all the evidence from the laboratory in these cases. He gives an account of a case illustrating the deceptive character of the inferences drawn in a certain type of gastric disease and recommends it to the careful consideration of those who advocate medical treatment of pyloric ulcer. The high acidity was kept up long after cancer had developed and only immediate surgery saved the patient. Fortunately, the evidence in favor of operation is not such as to leave much ground for doubt as to the propriety. The advantages and disadvantages of medical treatment are given by Hall as follows. The advantages are: "1. Avoidance of immediate operative and anesthetic dangers. 2. Avoidance of chance of occurrence of vicious circle, recurrence of jejunal ulcer, ventral hernia, post-operative adhesions, etc. Against these advantages we should set the following dangers: (1) likelihood of failure of medical treatment: (2) at least an even chance that the patient will relapse if temporarily cured; (3) dangers of development of pyloric stenosis through presence of an active ulcer at that point, or spasm caused by its irritation, or cicatricial stenosis following its healing; (4) danger of hemorrhage or acute perforation; (5) danger of the development of cancer on the base of the ulcer (68 per cent. of the pylori excised by the Mayos for cancer showed origin in an ulcer, while 71 per cent. of those excised under the belief that they were cases of ulcer showed beginning cancerous changes); (6) danger of adhesions, which cripple the action of the stomach, obstruct the gall-passages, produce serious pain and often require late operation; (7) dangers from a troop of late complications of slowly developing perforation, amongst which I have encountered peritonitis, subphrenic abscess, empyema, pyo-pneumothorax, pneumonia, perforation through the lung, septic pericarditis, mediastinitis, pancreatitis, suppurative processes about the liver and gall-ducts and general sepsis; (8) development of such a condition of anemia and malnutrition from the crippling of the digestive apparatus as to lead to neurasthenia, hysteria, and various functional nervous diseases, or to pave the way for an easy and often fatal infection by the tubercle bacillus, pneumococcus, influenza bacillus, etc."

OPERABILITY OF CANCER OF THE CERVIX.

Emil Ries, Chicago (*Journal A. M. A.*, January 14), says what is called operability depends largely on the personal equation of the operation; what one would call operable another would refuse to undertake. In discussing the question we must recall that the diagnosis of cancer must be made by the microscope and recognize the fact that some cancers thus diagnosed have been removed and the patient cured by operation. The cases which give the best chances are those in which the cancer is small and limited in extent. They afford the least primary mortality and the best later results. The unfavorable ones are those in which there is extensive involvement of the tissues and infection of the disintegrating tissue has occurred. It is regrettable that only a pitifully small percentage of curable cancers reach the surgeon. The most come in the condition which admits of varying prognoses by conscientious surgeons. Any operation which fails to remove the whole of the diseased tissue is a failure, whether the patient survives the operation or not. It is possible to remove almost any uterus affected with carcinoma, but the operation is a perfectly useless one in many cases. When the disease cannot be completely eradicated, a mere palliative operation is better for all concerned. Unfortunately, the primary mortality increases with the extent of tissue removed and, since it is necessary to excise a large margin around the disease if any good is to be expected, this has to be considered. The cervix is a particularly unfavorable location for wide excision and, moreover, the extension of cancer of the cervix along the lymphatics is especially treacherous. The operation offered by Ries to the profession in 1895 and which has since been modified and variously called the extensive Freund operation or the Wertheim operation, was the result of all these considerations. The intention was to keep as far away from the primary cancer as possible and to include all the surrounding tissues that probably would include the first metastatic outputs, and at the same time evolve a technic which would give a fair chance for the patient to survive the necessarily extensive cutting. The large mortality of his first imitators has made them more conservative, and he is now probably the most radical operator, with the result, he says, that all his patients who have left the hospital after a complete operation are today alive and free from pelvic carcinoma. He gives the summary of his results

and says that his principles, announced in 1895, remain unchanged. He would repeat, however, that the value of this operation is in the possible chance it gives of lasting cure in favorable cases rather than in the possibility of operating in advanced cases not amenable to the older methods. As expected, he found that certain cases were inoperable that were formerly considered operable, and *vice versa*. The radical operation as he does it is a severe and dangerous one in itself, even under reasonably favorable conditions. In very anemic patients and those with nephritis and chronic bronchitis, emphysema and valvular heart lesions, it is contraindicated. It is difficult in short, stout patients and very obese, tall ones, and preparatory treatment should be tried beforehand. Bacterial infection of cancer is of great importance. It is impossible to render an infected carcinomatous ulcer aseptic under any preparatory treatment. Preparation of the carcinoma the day before the main operation or immediately preceding it seems to be the best method, as it is not safe to let a carcinoma go on for weeks during which it may become hopelessly inoperable. The methods of diagnosis are mentioned and the speculum is condemned as useless for this purpose. Combined palpation, vaginal and abdominal, will demonstrate the mobility of the uterus, though this is of less importance than was formerly considered. There is no certainty what any operation may reveal and every radical operation for carcinoma of the cervix should be begun as an exploratory operation. After the operation, most thorough microscopic testing of the tissue to be sure that it has included all the cancerous disease, is essential.

THE CAUTERY IN CARCINOMA OF THE CERVIX.

C. C. Frederick, Buffalo, N. Y. (*Journal A. M. A.*, January 14), advocates the use of the cautery, as demonstrated by Dr. John Byrne of New York nearly 20 years ago when he reported a series of successful operations and advocated the use of the cautery in uterine cancer. Frederick restates Byrne's statistics and says that in the cautery operation of Dr. Byrne's we have the means of doing for these sufferers what cannot be done in any other way. The galvanocautery alone is useful. All others are makeshifts. It can be controlled and everything done while the patient is under the anesthetic. We can be sure no further destruction of tissues is going on when the cautery is withdrawn and it is more perfect and certain in its results than the other methods. It causes cessation of the hemorrhages and the infection at the point where it is applied, though, of course, it can not cure the patient if the infection has passed up in the lymphatics beyond its reach. The sharp curette is the adjuvant of the cautery in the inoperable cases. The cylindrical water-cooled specula are not advised by Frederick. Burning of the vagina or bladder may be prevented by moist gauze jackets over the blades of speculums and retractors. After curetting away the soft tissues there is more or less oozing and sometimes bleeding and he favors Dr. Boldt's suggestion of packing the crater thus made and waiting a day or two before using the cautery in some cases. He thinks failures of other operators have been due largely to their not using the right kind of cautery. No Paquelin apparatus will suffice; only the right kind of electro-thermo cautery will do the work efficiently. The ordinary street current used for incandescent lighting, controlled by a rheostat, gives the necessary power to heat a platinum dome to any degree desired. Before using it the operator should know where he desires the most penetration. The bladder, rectum, and ureters are to be avoided and, if the intestines are not injured, the peritoneum has even been penetrated without ill results. The best results may be secured by not placing the heated dome against the tissues but by holding it near them, and, if the parts to be protected are well-defended by moist gauze they will receive no injury. He has done several hysterectomies for cases cauterized some time before and found the effect of the cicatricial deposits after the cautery to inhibit the growth of the cancer to an extent that warranted the later operation. He therefore suggests the use of the cautery as a means of preparing a limited number of cases for later radical operation and suggests the use of the cautery freely before doing a radical operation, as he believes it does more to prevent recurrences than any other method. He thinks this is a much more important step in the operation than would at first thought appear.

CANCER OF THE UTERUS.

The literature of the modern radical operation for the cure of cancer of the uterus is thoroughly discussed by J. H. Jacobson, Toledo, Ohio (*Journal A. M. A.*, January 14), who also gives a very extensive bibliography of the subject. He credits the real beginning of the modern abdominal operation to W. A. Freund, who published the first account of the method in 1878. To Emil Ries, however, he gives the credit of widening the scope of the operation by centering the attention of gynecologists on the lymphatic gland. To Wertheim is credited the standard technic now in use. From his analysis of the published results he deduces the following: "1. Among Continental operators, including Wertheim's figures, an operability of 65.17 per cent., a primary mortality of 19.94 per cent., a permanent cure from 3 to 5 years in 40.72 per cent. (5 operators), and an absolute cure in all cases of 21.14 per cent. (5 operators with period of observation from 2 to 6½ years). 2. Wertheim's figures are an operability of 60 per cent.; a primary mortality of 10 per cent.; permanent cures after 5 years in 58.6 per cent., and an absolute cure of all cases in 19.3 per cent., with a probability of 30 per cent. 3. Other Continental operators exclusive of Wertheim's figures, give an operability of 65.54 per cent.; a primary mortality of 13.79 per cent.; an average permanent cure 5 years after operation in the hands of 4 other operators of 36.25 per cent., with an average absolute cure in all cases from 3 to 5 years after operation in the hands of 4 operators of 21.44 per cent. 4. Eleven American operators give an average operability of 35 per cent.; a primary mortality of 15.17 per cent.; permanent cures after 5 years, 8.39 per cent. On this basis the absolute cure would be approximately 1 per cent." The comparison of operations for uterine cancer by the abdominal method with other methods is made, and Jacobson says it is apparent that the best results in the surgical treatment of uterine cancer are obtained from the radical abdominal operation. As long, however, as patients ask for relief only in the advanced stage, the percentage of operability will be low, the primary mortality high and the percentage of absolute cures low. He believes, however, that the problem of reducing primary mortality will be solved within the next few years.

UTERINE CANCER.

J. A. Sampson, Albany, N. Y. (*Journal A. M. A.*, January 14), after first speaking of the two forms of cancer of the uterus, that of the body and that of the cervix, takes up the latter, the most important of the two varieties on account of its greater frequency and malignancy. Of this only a small percentage of patients have been cured by operation and it has been ascertained in the majority that the disease had extended beyond the tissues of the uterus. We can classify cervical cancer by its origin, whether from the portio vaginalis or from the mucosa of the canal. They may also be classified as either reverting (vegetative), or inverting (infiltrating). The former is apparently less malignant and frequent and its extension is external, while the latter soon extends into the deep tissues, sometimes with very little evidence of growth on its surface. Cancer may invade the tissues either by delicate thread-like processes or en masse, the direction being determined by its origin or sometimes by unknown factors. Sampson goes over separately the involvement of neighboring organs, the bladder, the early involvement of which he thinks has not received the attention it deserves, the ureters, the body of the uterus, the parametrium, in which metastasis is of frequent occurrence. In more than half of the cases the growth has so invaded the adjacent structures that palliative treatment alone is indicated. The lymph spaces of the peritoneum are usually first invaded, then those of the bladder wall and rarely, in the operative cases, those of the ureters, though the tissues about them may be compressed. Later in the course of the disease the ureters are apt to be involved if the patient lives long enough. Metastases to the pelvic lymph nodes are present in at least one-third and possibly one-half of the operative cases. While they are more frequently found in the advanced than in the early stages, they may be present in cases in which the primary growth is very small and the adjacent tissues free from cancer. Metastases to the abdominal nodes are sometimes present, but how frequently Sampson does not venture to say. The points he specially wishes to emphasize in the paper are that in one-half of the operative cases the growth has extended beyond the uterus, and recurrence is only the continuation of an unremoved growth. Certain types are more malignant than others. The inverting type arising in the portio vaginalis is most frequent and most malignant according to his observations. The same type arising from the mucosa is less so and the everting type is still less. The reaction on the part of the tissues invaded varies greatly, sometimes being very little, and at other times there is marked increase in connective tissue which may retard the growth and the lymph-nodes may show some resistance. It is impossible to judge definitely of the extent of the disease before operating or to be certain as to the result. The most radical operation consistent with a "permissible primary mortality" is indicated especially in early cases, but extensive operations in advanced cases are not justified. Great care should be exercised in the choice of the borderline cases between early and advanced. The most important aid to the treatment is an early diagnosis, and an earlier diagnosis could be made in most cases. Sometimes symptoms referable to the growth do not occur until late in the disease, but in over half of the forty-one patients operated on, and on which he bases his paper, Sampson says there was a neglected history of uterine bleeding of over six months' duration. The paper is fully illustrated.

WHY SOAP CLEANSES.

Some interesting details are given in *La Technique Moderne* concerning the researches of M. W. Spring, a Belgian chemist, into the processes whereby soap cleanses. It has been stated that the cleansing properties of soap are due to its combination with the soiling substance, but this only half explains the question as to how soap acts. An explanation is still required as to why it disappears after having taken up and entered into combination with the dirt, or, in other words, why the compound is removed. The author, after studying the action of soap upon various soiling substances, such as lampblack, clay, red chalk, silica, cellulose, etc., comes to the conclusion that the cleansing of an object consists in a process of substitution. There is brought about a colloidal combination of the soap and the soiling substance, which by reason of its constitution, no longer has the power of fixing itself by absorption on to the solid body, with the result that it is easily carried away by the water. Thus in washing with soap one puts it in contact with one's soiling substances, these latter having a greater affinity for the former than for one's skin. The process does not end here, for soap in its turn has even a greater affinity for one's skin than for the substances which it proceeds to replace and to set free to be taken up by the water and removed. The dirty substances have a chemical action on the fresh solution of soap and water, resulting in the formation of an acid salt, with which they agglutinate themselves. This compound of colloidal absorption is due to electrical action. The constituents have different electrical polarities. The compound is stable and can pass through a filter-paper without soiling it.—*The Hospital.*

INFECTION OF PERSONS WITH INHERITED AND ACQUIRED SYPHILIS.—Stern's patient was a man of 28 who had a primary syphilitic sore with numerous pale spirochetes, differing in no respect from an ordinary primary infection with syphilis; and yet the man presented the unmistakable signs of inherited syphilis or syphilis acquired in early infancy, with tertiary phenomena. This makes the ninth case on record, Stern remarks, in which persons with syphilis in infancy, either inherited or acquired during the first weeks of life, acquired a fresh infec-

tion in early adult life. He summarizes 80 cases of reinfection in cases of acquired syphilis, and draws the conclusion that the reinfection in many instances is conclusive testimony to the complete cure of the primary infection. He emphasizes the necessity for teaching patients this, so that those who have had syphilis in the past may guard against contracting it anew instead of considering themselves immune. His experience also indicates that a strong, resistant organism may pass through syphilis with the organs comparatively intact and escape the dreaded consequences. The pessimistic idea that a person once infected is always infected and immune to future infection should be combated, he declares, for numerous and obvious reasons.—*Exchange.*

Removal Through Perineum of Cancers of Rectum and Anus.—Delore and Chalier relate the particulars of 19 cases in which they performed this operation. All but 5 of the patients were women, and all but one were over 50. The patient lies on his back, the hips projecting beyond the edge of the table. The thighs are held by assistants, flexed on the pelvis in such a way that the anus protrudes and points upward. It is sutured together and an incision is made encircling the anus, with a lengthwise median extending below and above, the latter incision extending to the coccyx. The coccyx is resected at its base and the entire rectum, with its sheath and ganglia, is extirpated in a single piece. The resection of the coccyx facilitates the detachment of the rectum, which is commenced at the back, and thus better insight over the conditions is obtained. One of the patients thus operated on eight years ago is still in good health, and another, who succumbed to intercurrent tuberculosis a year and a half after the operation, showed no signs of recurrence. One patient operated on four years ago is in good health to date, and is free from incontinence. Two patients succumbed soon after the operation, one to acute peritonitis when all seemed to be doing well, and another in collapse after a comparatively simple operation. The ultimate outcome is not known in five cases, but in none of the others has there been recurrence. The details of the various cases are given, with a summary in tabulated form for comparison.—*Exchange.*

Treatment of Glandular Cysts of the Pancreas.—Hardouin diagnosed a fluid tumor behind the stomach, probably in the pancreas or lower part of the liver. Through a median laparotomy the tumor was punctured and two liters of a turbid, greenish-brown fluid were evacuated. The cyst was then incised and sponged dry, but it could not be removed, as it was adherent to the stomach and adjacent structures. An incision, 15 cm. long was then made in the lumbar region and two large drains were introduced into the cyst, after which the abdominal wound was sutured. The lumbar fistulae healed completely in three months, and the patient, a farmer of 48, has been in good health since. There was a history of contusion a few months before the tumor was first noticed, and traumatism was also mentioned in 17 out of 94 cases on record. The fluid obtained from the cyst was evidently of pancreatic origin. Lumbar drainage should be the rule, Hardouin thinks, in all cases of pancreatic cysts, for obvious reasons. He appends the bibliography for the last six years.—*Exchange.*

Carriage of Infection by Flies.—Buchanan records experiments in demonstration of the part which the common house fly and the bluebottle fly are capable of playing as agents in carrying and spreading infection. The diseases which were made the subject of experiments were typhoid, swine fever, staphylococcal abscess, pulmonary tuberculosis and anthrax. The experiments showed that flies alighting on any substance containing pathogenic germs are capable of carrying away these organisms in large numbers on their feet and of depositing them in gradually diminishing numbers on surface after surface with which they come in contact. They further demonstrate the necessity of the exercise of stringent measures to prevent the access of flies to all sources of infection and to protect food of all kinds against flies alighting on it.—*Exchange.*

Certainly Not.

Census Taker—"How many children have you?"

Citizen—"Three."

Census Taker—"Altogether?"

Citizen—"No, one at a time."—*Life.*

Doctors Who Have Become Criminals.

"Dr." Crippen is the latest recruit from the medical profession—fortunately so little branded with the stigma of crime—to be suspected of a dastardly murder. The case brings to the mind of a writer for London *Answers* other interesting instances of sensational cases in which medical men have been the central figures.

William Palmer, the sporting doctor, of Rugeley, in Staffordshire, England, was a wholesale murderer, to whose account at least fourteen murders can be accredited. Among his victims were his mother-in-law, his brother, and his wife, at whose death he received from various companies in which her life had been insured no less a sum than $65,000. This, however, was insufficient to settle his debts; and, as the insurance companies refused, on his brother's death, to pay, he was reduced to dire straits for money.

In his desperation, he resolved upon the death of one Cook, with whom, at the time, he was attending the Shrewsbury races. The deed was commenced at the Raven Hotel, Shrewsbury, where Palmer doctored his victim's grog, and brought by persistent poisoning to a tragic conclusion a week later at the Talbot Arms, Rugeley, whither the ruined man had induced Cook to accompany him. No action was at first taken, but the strange disappearance of the dead man's papers and money aroused suspicion. Soon sufficient evidence was obtained to justify the arrest of Palmer, who was duly sentenced to death.

Ten years later, Dr. Pritchard, a medical practitioner of Glasgow, was arrested on the charge of poisoning his wife and mother-in-law. Antimony was the agent employed; and no doubt the money which would accrue from assurance offices, in the event of his victim's death, was the main motive that prompted the crime. He, too, was executed.

Aconitin was the poison used by Dr. Lamson to compass the death of Percy Malcolm John, his wife's brother. He effected his design by inducing the boy to swallow a gelatin capsule filled with powdered sugar into which he had introduced the poison, on the pretense that it would relieve the paralysis from which he suffered. The same night the lad was seized with violent pains, and died within four hours of swallowing the capsule. Suspicion fell on Lamson, and he was arrested and sentenced to death.

Jealousy of a successful rival drove Dr. Eustachy, practicing at Pertuis, in the south of France, to attempt the life of Dr. Tournatoire. The latter one day received a present of six thrushes. Of the e his wife and the cook partook, and were at once seized with excruciating pains, which were followed by extraordinary hallucinations and delusions. Dr. Fournatoire promptly subjected the remaining thrushes to examination and found them to contain atropin. Eustachy was sentenced to eight years' hard labor.

Dr. de la Pommerais, a homeopathic doctor, practicing in Paris, having in 1861 poisoned Mme. Dubiny, his mother-in-law, proceeded to insure a Mme. de Pauw, the widow of an old friend, for something over $100,000. This effected, he deliberately did her to death, using digitalin to accomplish his purpose. His guilt was incontestably proved, and he suffered on the guillotine. Another French physician—Dr. Castaing—used acetate of morphin to remove the brothers Hippolyte and Auguste Ballet, that he might possess himself of their fortunes.

Perhaps the most callous of medical criminals was "Dr." Thomas Neill, alias Cream, an American M. D., who was executed for the murder by strychnin of Matilda Clover, besides being accused of the murder of three other women. —*Exchange.*

Anaphylaxis.—By Drs. Anderson and Frost (*U. S. A. Hygienic Laboratory Bulletin,* No. 64, June, 1910; Ref., *The British Medical Journal*, October 29, 1910, p. 68).

The authors have investigated the antibodies concerned in anaphylaxis, and consider that the essential agent in the passive transference of anaphylaxis is "allergin," a term which designates an antibody characteristic of anaphylaxis, and specific for its antigen. They have found that 3 ccm. of serum from a guinea-pig sensitized by a single small injection of horse serum regularly contain sufficient allergin to sensitize normal guinea-pigs to an injection of horse serum twenty-four hours later; 0.01 ccm. of horse serum was always found sufficient to neutralize the allergin in 3 ccm. of sensitive guinea-pig serum, and in many cases a much smaller quantity was enough. When guinea-pigs were given 0.01 ccm. of horse serum, followed at various in-

tervals by the injection of 3 ccm. of sensitive guinea-pig serum, passive sensitization was prevented when the interval was not greater than twelve hours; when it was longer—fifteen to eighteen hours—passive hypersusceptibility was modified but not constantly prevented. When normal guinea-pigs were given 3 ccm. of sensitive guinea-pig serum and, at various intervals up to twenty-four hours, 0.01 ccm. of normal horse serum, passive anaphylaxis was prevented in those animals which received the horse serum within six hours after receiving the sensitive guinea-pig serum. In the remainder of the series passive anaphylaxis was either prevented or modified. This would seem to indicate that within six hours the allergin had become "bound" in some way, so that it could no longer be neutralized by the injection of horse serum in the amount used. Mixtures of 3 ccm. of sensitive guinea-pig serum, with varying amounts of the specific antigen, sensitized normal guinea-pigs when tested nineteen days later. Attempts to absorb the anaphylactic antibody from sensitive guinea-pig serum by contact for four hours with various organs of normal or sensitive guinea-pigs were not successful. The amount of allergin was apparently not diminished by this procedure. The authors found that the degree of hypersusceptibility conferred by equal amounts of sensitive serum was greater after fifteen days than after one day; even after fifteen days, however, their guinea-pigs were not sensitized by less than 1 ccm. of sensitive serum. They also found that immediate anaphylactic symptoms could be produced in normal animals by the injection of suitable mixtures of antigen and anaphylactic antibody. Temperatures of 56° to 58° C. for one hour did not destroy the anaphylactic antibody in sensitive guinea-pig serum, but these temperatures appeared in some cases to impair its activity.—*Exchange.*

Alcoholism—The Ally of Tuberculosis.

The Henry Phipps Institute in Philadelphia for the treatment of tuberculosis is compiling some valuable statistics on the relation between alcoholic habits and the response to treatment for tuberculosis. Beginning with the year 1907, the reports of the institution tabulate the course of the disease in seven classes of persons: (1) alcoholics, that is, "those who had used enough alcohol to do themselves some physical harm"; (2) those who had not; (3) those of whom there was no record; (4) those who had alcoholism in the preceding generation; (5) those having no alcoholism in the preceding generation; (6) those furnishing no record; (7) cases without alcoholism in either present or preceding generations.

The statistics for 1907 and 1908, the only ones so far accessible, show a marked difference between the alcoholic and the non-alcoholic classes. Of the former there were 293 cases; of the latter, 1145. In 1907, 50 per cent. of the non-alcoholics improved, but only 26.14 per cent. of the alcoholics; 22.87 per cent. of the alcoholics died, but only 7.83 per cent. of the non-alcoholics, showing, as the report says, "nearly twice as good results for the non-alcoholics as for the alcoholics."

The results of treatment in those who had a family history of alcoholism were only a little less striking: 47.20 per cent. of those with a family history of non-alcoholism improved as against 37.03 per cent. of those with a family history of alcoholism; 13.58 per cent. of the latter died, but only 9.48 per cent. of those who had no alcoholic family history.

The figures for 1908 give almost the same percentages: mortality 100 per cent. higher among alcoholics, 80 per cent. higher in those of alcoholic parentage; improvement 30 per cent. greater in non-alcoholics than in alcoholics, 10 per cent. greater in those without than in those with alcoholic parents.

The number of those in whom the disease was arrested was very small in both classes. The total for the two years (1907 and 1908) was only 4 (1.61 per cent.) out of 247 who gave a history of alcoholism, and 15 out of 934 (1.60 per cent.) who gave a history of no alcoholism.

The same applies to the arrested cases in those whose family history was reported: 5 out of 266 (1.87 per cent.) had the disease arrested among those having alcoholism in the preceding generation, and 14 out of 899 (1.55 per cent.) where there was no alcoholism in the previous generation. These numbers, especially among the alcoholic class, were rather too small to give significant percentages.

The Phipps's statistics throw little light so far upon the relation of alcoholism to the implanta-

tion or occurrence of consumption. The number of non-alcoholic patients treated in the institute outnumbered the alcoholic about 5 to 1. Probably there is not in the general population from which these patients were drawn 1 alcoholic of the degree taken as representative by the Phipps Institute to every 5 persons in the community not thus alcoholized, which would indicate that the alcoholic class of the population had a larger representation under treatment for tuberculosis than the non-alcoholic class. To determine this point absolutely would necessitate a count of the "alcoholics" in the community to determine their ratio to the non-alcoholic. A separate classification of total abstainers, all through, would afford additional light.

What Should Physicians Tell Patients Regarding the Treatment of Lacerations of the Cervix?

Yarian (*Cleveland Med. Jour.*, Dec., 1910, p. 945) comes to the following conclusions:

"1. Cervical lacerations are to a large degree unavoidable.

"2. Their immediate repair, especially by the general practitioner, is neither wise nor practicable.

"3. Secondary repair if performed during the active child-bearing period may greatly limit the birth rate or even become a cause of 'race suicide.' It is better to wait until childbearing is probably well over with, unless the condition is *markedly affecting* the comfort and health of the patient.

"4. Every accoucheur should frankly inform his patients that the cervix will likely be more or less lacerated, that he should not be blamed for the occurrence, and that it is not wise for him to repair the laceration at the time but that nature will probably heal it.

"5. It is a wise plan to examine every parturient woman six weeks to two months after confinement to discover if repair will likely be necessary, as a safeguard against cancer.

"6. When a case comes into the hands of another physician or surgeon for treatment, it is not only unfair to the accoucheur that he should censure him for not having repaired it immediately, but he should take the occasion to explain to the woman the facts as above considered."

Treatment of Diabetes.

Forty or fifty years ago inhalations of oxygen were highly recommended for various diseases of metabolism, including diabetes mellitus. Oxygen may now be given internally, in the form of peroxides, which split off the gas readily in contact with living tissues and the gastric juice. One of the most potent preparations of this character is magnesium-perhydrol (15 and 25 per cent.). The author, C. v. Sturmer, himself suffered from a severe form of diabetes and excreted 2 to 3 per cent. sugar even when he dieted strictly. After taking 0.5 gm. of the 25 per cent. preparation three times a day the meteorism and oppressive feeling in the chest disappeared, the amount of urine was reduced from 1800 to 1400 cc., and the percentage of sugar from 1.6 per cent. to 0.2 per cent. The acid reaction of the urine soon became alkaline which is of decided advantage when there is acidosis. He repeated the experiment twice with the same result, and did not diet while taking the preparation.—*Muench. med. Woch.*, Dec. 6, 1910.

Light Diet.—An old darky, sent to a hospital, upon his arrival was placed in a ward, and one of the nurses put a thermometer in his mouth to take his temperature.

When the house doctor made his rounds, he said:

"Well, my man, how do you feel?"

"I feels right tol'ble, suh."

"Have you had anything to eat yet?"

"Yessuh, I had a little."

"What did you have?"

"A lady done gimme a piece of glass ter suck, suh."—*National Druggist.*

John F. Erdmann, New York, gives the history of an interesting case of stab wound of the heart, in which a hole the size of the index finger was found in the right ventricle after opening the chest. This was sutured and the patient made a good recovery.—*Medical Record*, December 17, 1910.

Alcohol Disinfection of Hands.—According to Schumburg (*Deutsche Medizinische Wochenschrift*) washing the hands with strong alcohol is a most effective means of removing all infection and rendering any bacteria innocuous. He states that 200 c.cm. of alcohol applied with a pledget of cottonwool are sufficient to disinfect the hands to the extent of 99 per cent. or more of all bacteria present. Ordinary methylated spirit is quite effective. From experiments in the medical department of the Prussian Ministry of War it appears that washing with soap and water combined with even prolonged scrubbing with a brush does not remove the microbes, the soap softening the skin and making the bacteria more adherent. Alcohol, on the other hand, by hardening the skin, causes the bacteria to become rapidly detached. To secure proper disinfection with alcohol the preliminary use of soap and water must be dispensed with, the reasons given being that the residual moisture, even after drying, dilutes the alcohol, and further that the softening of the skin by water causes it to contract too strongly when the alcohol is applied, and by rendering it rough and scaly encourages the transference of bacteria from the surgeon's hands to the wound. Inasmuch, however, as the wearing of gloves for operations has been now so generally adopted, disinfection of the hands has not the same importance that it once possessed for the success of aseptic surgery.

The Tuberculous Gland.—Philip, in *The London Medical Lancet,* urges physicians to watch for the earliest indication of spreading involvement of lymphatic glands in young children. Especially have regard to distribution downward from the extratonsillar gland into the supraclavicular triangle, and regard such process as almost certainly of tuberculous nature. If in doubt make use of the tuberculin test (cutaneous or percutaneous). Treat as soon as may be with tuberculin, while at the same time carefully cleansing the throat and correcting the child's faulty environment. If incidentally one or other gland suppurates, evacuate in simple fashion, continuing the use of tuberculin. There is ample reason for the statement that if such procedure is followed the glandular disturbance will commonly yield, grosser deformity will become rare, and, what is vastly more important, the risk of the spread of tubercul us infection to internal organs will be greatly lessened.

Treatment of Furuncle of the External Ear.

Bush (*Merck's Archives,* May, 1910, p. 137), outlines the following treatment: The swelling is lanced even before the situation of the furuncle can be determined. This relieves the pain. Sometimes the patient will not submit to lancing, but whether lanced or not the subsequent treatment is the same. Ichthyol 50 per cent. in glycerine is used. A small tampon saturated with the solution is introduced into the canal and some dry cotton inserted over it. No other dressing is applied. The tampon should not exert pressure. The anodyne action of the ichthyol is obtained soon after introduction. The tampon is renewed every day, in very painful cases twice a day. The pus is absorbed by the cotton and the ichthyol prevents reinfection. There is no eczema of the auricle so common after the use of moist dressings. The tampons are used until there is no further discharge or moisture.

Potassium Permanganate in Surgery.

"For four years R. Blumm has treated phlegmons, abscesses, and furuncles in the following manner: After incision and evacuation of pus, the entire cavity is filled with crystallized potassium permanganate, upon which undiluted pyroligneous acid is then poured. The wound is then covered with compresses and saturated with a 6 per cent. solution of the acid. After twenty-four hours the entire cavity will be filled with a brownish sediment, which is best washed out with running water. The exposed portions are perfectly clean and the wound will close up rapidly. The action of the acid upon the crystals causes an evolution of oxygen."—*Muench. Med. Woch.,* Feb. 8, 1910; via *Merck's Archives.*

An ordinance has been passed in Duluth, Minn., requiring bakers to use white gloves when handling bread during delivery, etc. The health commissioner of the state wisely objected to this, pointing out that gloves would be a poor substitute, as it would only be a short time before they would be as dirty as the hands of the person using them. They would also absorb sweat and dirt.

Typhoid Spine Treated by Applying a Plaster Jacket.

Goddu (*Bost. Med. & Surg. Jour.*, May 26, 1910, p. 711) reports the following case:

"It was absolutely impossible to make a complete examination on account of patient's inability to move because of pain.

"Patient was placed face downward on hammock and hammock drawn as tightly as possible; given no hyperextension as this movement seemed to cause very severe pain. A plaster of paris jacket was then put on as quickly as possible. The next day patient felt much better and no morphia whatever was given. The temperature dropped to almost normal, with a lower pulse.

"Patient kept this jacket on two weeks, when another was put on with a fair amount of hyperextensions. He was now able easily to turn in bed. In two days patient was able to sit up in a chair, without any pain at all, for two hours. Two weeks later he sat up all day and had no pain whatever."

He now began to walk with crutches. Eight weeks after first jacket was applied the patient was discharged in excellent condition, absolutely free from any pain, and still wearing a plaster of paris jacket. Five weeks later he was rapidly gaining weight and a leather jacket was fitted. Meanwhile the patient had been going about the city without any discomfort.

The Treatment of Furunculosis.

Bowen (*Journal American Medical Association*, July 16, 1910) calls attention to a method of treating the skin of those afflicted with furunculosis that has proved universally effective in a large number of cases during the last fifteen years. The patient is directed to wash the whole body with warm water and soap in the morning and at night. This part of the treatment is regarded as most essential, although when the furuncles have been confined to the neck it may be sufficient to wash only the upper part of the body, but it is not so thorough a procedure. The skin is then dried and bathed in an antiseptic solution such as boracic acid in water. Other solutions such as bichloride may be used but Bowen prefers the boracic acid. The skin is allowed to dry without wiping, and the individual furuncles are treated with the following ointment:

Boracic Acid—One dram.
Precipitated Sulphur—One dram.
Carbolized Petrolatum—One ounce.

All clothing that comes in contact with the skin should be changed daily as the infection is undoubtedly retained in the collars and underclothing. Early opening of the individual lesions is not advised. The general and hygienic treatment which is indicated in the particular case should be carried out as before. This method when carried out carefully has rarely disappointed the writer even when other means such as the vaccine treatment have failed.

Enlarged Superficial Lymph Glands with Pulmonary Tuberculosis.—Zebrow (*Deutsche Medizinische Wochenschrift*) reports enlarged glands on the side of the chest in 186 out of 929 patients with unmistakable tuberculous lesions in the lungs or pleura, or in 20 per cent. The writer also found the enlarged glands in 2.58 per cent. of 1,629 patients without manifest signs of tuberculosis. In 14 in this latter group with enlarged glands the skin and conjunctiva tuberculin tests elicited a positive response, and these tests were not applied in the other 28 patients in this group. Nothing pathologic could be discovered by casual examination in 11 in this group. The enlarged glands were found along the middle axillary line or a little inward from this, along the long thoracic artery. In 12 of the 228 patients presenting these enlarged glands, they could be distinctly traced along the line of the pulsating vessel when looked at from the side, generally at about the fourth interspace and mostly on the right side. In one case the discovery of the enlarged glands first suggested possible tuberculosis of the lungs, and the glands subsided to normal size as the tuberculous process healed under treatment. The author also discusses the anatomic conditions responsible for involvement of these glands in the pathologic process beyond.

Dipping a throat mirror in alcohol will as effectively keep off a film of moisture as heating. —*Surgical Suggestions.*

Vomiting may frequently be controlled by one-drop doses of tincture of iodine in water at half-hour intervals.—*Surgical Suggestions.*

Danger of Menthol Preparations for Infants.

A useful note of warning has been raised by several physicians recently against the administration of menthol preparations, especially in the form of nasal instillations, to infants. P. F. Armand-Delille, of Paris, first drew attention to the fact that they are liable to produce a condition of severe asphyxia, and reported a case of an infant aged three months suffering from capillary bronchitis, for whom he prescribed, in addition to other therapeutic measures, nasal instillations of 1 per cent. menthol in oil. Fortunately he made the first application himself. It was immediately followed by a severe spasm of the glottis with apnea, violent respiratory efforts, and cyanosis. These phenomena were accompanied by an excessive mucous secretion in the naso-pharynx, necessitating continual swabbing with cotton wool on the end of the finger. By this means, combined with a hot bath, the infant recovered in the course of a quarter of an hour.

A similar case of violent spasms following a nasal instillation with menthol in an infant is recorded by Malebran of Mentone.

Two further cases of a like nature are reported by L. Mayet, of Lyons. Finally, W. Koch, of Freiburg, in Breisgau, relates a case of severe laryngeal spasm following the use of menthol. The patient was an infant aged three weeks, affected with an acute coryza. He prescribes the application of a menthol preparation to the nasal fossæ by means of cotton-wool swabs on the end of a match. Immediately on the first application the infant developed signs of intense asphyxia, with complete apnea and cyanosis of the face, convulsions and foaming at the mouth. The condition was only relieved in the course of half an hour by artificial respiration, and by constantly freeing the mouth and pharynx of the excessive mucous secretion.

Such examples are a sufficient warning against the use of menthol in infants or even children at all of tender years.—*Hospital,* Oct. 29, 1910.

Instead of suturing the skin after amputation of an extremity, it is sometimes better to bring the flaps together with broad strips of adhesive plaster, especially if the operation performed is for an arteriosclerotic condition.—*Ohio State Med. Jour.*

The Bureau of the Census, at Washington, is sending to every physician in the United States a copy of the "Physicians' Pocket Reference to the International List of Causes of Death" arranged in accordance with the last revision. The last revision was made in Paris in 1909 by an international commission in which the United States as well as most all others of the civilized countries of the world were represented by delegates. Will not every physician in Maine aid in making our Vital Statistics as accurate as possible by studying this little book carefully and using precise and definite terms in stating the causes of death—as nearly in accordance with the recommendations in this list as is possible?

The State Registrar will take pleasure in sending a copy of the "Pocket Reference" to any physician who has not received a copy.

It was established beyond peradventure by investigation into the typhoid outbreaks in our camps during and after the Spanish-American War, that flies were the principal conveyers of the fever germs. This fact is quoted again and again in reports sent to the Merchants' Association of New York by physicians. The secretary of the State Board of Health of North Dakota, Dr. Grassick, says: "I believe that more cases of typhoid fever are caused by flies than any other source of infection." Dr. Burr, health officer of the city of Binghamton, New York, writes: "In this locality we have had rather more than our usual number of fall typhoid cases in persons who have had their summer outings in tents and in attendance at camp meetings. The inference points to the house fly." San Francisco's chief sanitary inspector, Dr. Hassler, says that experiments conclusively prove the house fly responsible for practically 151 cases of typhoid fever subsequent to the great earthquake.

The danger from flies in the autumn is emphasized by Dr. Patten, health commissioner of the city of Duluth, Minnesota: "I am of the opinion," he says, "that a great deal of disease is carried by house flies, especially in the fall of the year, when people are prone to remove their screens too early. With the drying up of the grasses and other vegetable matter, prob-

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And not a single improvement in our whole line of elixirs has been made at the expense of manufacturing integrity. There has been no juggling of formulas, no omission of troublesome ingredients, no sacrifice of therapeutic values. Our elixirs are absolutely true to name—*the medicine is in the bottle as well as on the label!*

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ably the germs that are composed in these media are carried into houses when no obstructions are offered."

Dr. Smith, of the Laboratory of Hygiene, Atlanta, Georgia, is convineed "that a greater part of our typhoid fever eomes from the aetivity of the common house fly than from any other souree."

The pamphlet on the typhoid fly, issued by the Merehants' Assoeiation of New York, should be universally read.

these works and also to "Modern Treatment," a work in two volumes, edited by Dr. Hobart A. Hare, whieh the firm intends to place on the market in November.

Elixirs de Luxe.

Parke, Davis & Co. announee some important improvements in their line of medieinal elixirs, a line numbering more than one hundred and twenty-five preparations and highly esteemed by physicians on the seore of therapeutie excellence. The improvements cited are in man-



Exhibitors at the State Society Meeting.

Lea & Febiger of Philadelphia and New York had a prominent position for the exhibition of their medical publications, which attracted universal attention. The latest works on surgery and medicine were shown, foremost among them being a "Practice of Medicine," by A. O. J. Kelly; "Modern Medieine," in 7 vols., edited by William Osler; the new edition of Gray's Anatomy, and a work on the "Eye," by J. D. Weeks. Artistic signs over the stand drew attention to

ufacturing processes, in the interest of palatability, permanenee and physical appearanee. They are set forth at some length in the eurrent issue of Modern Pharmacy, from which these interesting extracts are taken:

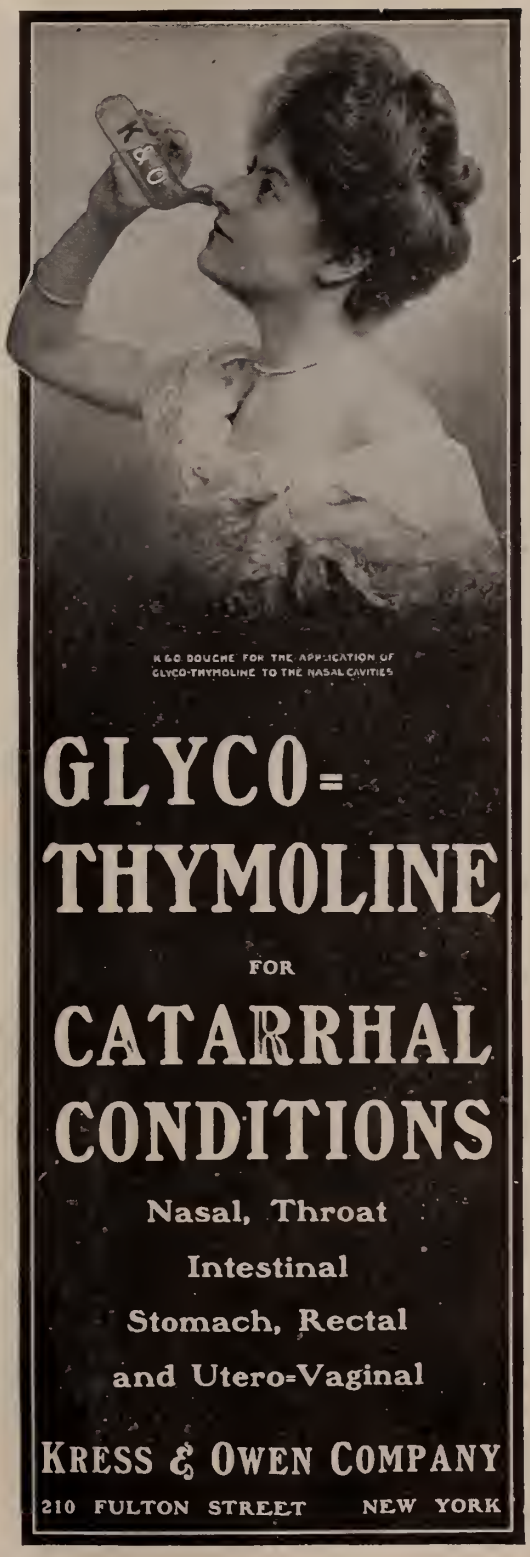
"Three or four years ago, in the gradual development of our scientific staff, we seeured the services of Professor Wilbur L. Seoville, a pharmacist well known to the country and a man pre-eminent in the field of what has been termed pharmaceutical elegance. Professor

Scoville may well be considered an artist in questions concerning odor, flavor and appearance of galenicals. The first task assigned to Professor Scoville was to go systematically and patiently through our entire line of elixirs—regardless of what other workers had done before him, and regardless of what changes were under consideration at the time. He was given carte blanche to go ahead and suggest any modifications and improvements which seemed to him necessary.

"Professor Scoville at once began an exhaustive series of experiments which took him nearly three years to complete. He went over the entire line, improving here the flavor, there the color, elsewhere the odor, and in other instances the permanence of our products. How well he succeeded may be seen by comparing any one of our elixirs with others on the market. It is our honest opinion that there is no other line of elixirs in the United States to-day possessing an equal degree of therapeutic efficiency which will stand up on the druggist's shelves and retain their physical properties and clearness so long as Parke, Davis & Co.'s. * * *

"During this three years of work we have made hundreds of experimental lots which have been kept under observation for a period of from six to eighteen months. The experiments have included such things as increasing and decreasing the percentage of alcohol, noting the effects of different solvents upon the stability of the elixirs, the increase and decrease in the proportion of the sugar present, and the effects of acids. We have studied the effect upon permanence of the elixirs of using fluid extracts or percolating the mixed drugs direct. The matter of aging and also the use of refining agents such as egg albumen and similar proteid matters have been tested out. The essential oils and perfumes employed have been subjected to careful criticism; many of these have been changed with the idea of getting a better blend or a more agreeable flavor.

"We might sum it up by saying that we have attempted first to make our line more stable; secondly, to improve the physical properties which appeal to the palate. But we want it understood that in making these improvements we have not in a single instance sacrificed the medicinal activity of the preparation."



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It is a modern building, equipped with elevator, electric lights, steam heat, sanitary plumbing, and in fact every convenience which could add to the comfort of its guests. The rooms are large and airy and tastefully furnished, many of them being en suite with private bath. Wide verandas overlooking Lake Cayuga extend around the house. During the winter season, for the Sheldrake Springs is open the year around, these verandas are enclosed in glass and form an ideal sun parlor. The cuisine is of unvarying excellence and fresh fruits and vegetables from the Sheldrake Springs farm are a feature.

There is plenty of amusement possible at the Sheldrake Springs. A nine-hole golf course is connected with the hotel, and there are also tennis courts and billiard parlors, together with boating, bathing and fishing.

The Sheldrake Springs is particularly popular with motorists. It has a finely equipped garage and the roads both from the east and the west are unusually good.

The location of the Sheldrake Springs is ideal and the climate dry and invigorating. There is a total absence of mosquitoes and other insects. The hotel is fitted with the most modern and up-to-date facilities for the giving of Nauheim, Turkish and Russian baths. The medical department is conducted on a strictly ethical basis. Hydrotherapeutic and electrotherapeutic treatments are given under the general direction of the physicians in charge, and the aim of the management is to offer to its guests, the best medical attention, combined with the comforts and appointments of a perfect hotel, which makes the Sheldrake Springs Health Resort rank among the first, as a place for health, rest and recuperation.

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Few conditions prove such a source of worry and annoyance to patient and physician during the cold months as those obstinate coughs of bronchial origin. Not only is the cough a great bother but, if not checked, it is not unusual for a graver state—such as a pulmonary tuberculosis—to follow. For the relief of "those coughs that hang on," Cord. Ext. Ol. Morrhuae Comp. (Hagee) is a favorite remedy with thousands of practitioners. It takes the edge off the cough, soothes the irritated mucous membrane and so builds up general health as to increase markedly the bodily resistance to other and more serious diseases. Cord. Ext. Ol. Morrhuae Comp. (Hagee) is a potent yet palatable cod liver oil preparation.

The theory that mucous membranes in pathological states are self cleansing is a position that that can no longer be scientifically sustained and it is only when we fail to recognize the fundamental principle that mucous membranes must be cleansed and kept clean do we get into trouble and to this end mild antiseptic solutions are necessary.

Fail in this and you only leave an era of infection that will lead you into further trouble.

In the treatment of inflammation of mucous membranes it must be remembered that we have with a highly sensitive tissue, one with an active nerve and large blood supply. Here we have at once two reasons why strong antiseptic solutions such as nitrate of silver or permanganate of potassium should be used only in the mildest solution, better not at all.

1st. After the secretive mucous membrane is cleansed it can easily be kept so and by a mild solution.

2nd. Mucous membranes if kept clean heal readily by virtue of their rich nerve and blood supply. Strong antiseptic solutions destroy the normal function of mucous membrane.

The treatment of nasal catarrh is not necessarily the work of the specialist. You will find that Germiletum applied with nasal douche or spray, holding solution in contact for two or three minutes will thoroughly cleanse the nose, mouth and throat and keep it so. The normal functioning of the membranes will soon become evident.



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In these bronchial disorders of a severer type, relief will promptly follow the administration of Pruni-Heroin (Wyttenbach), for incorporated in it are the agents calculated to allay inflammation of the small bronchial branches. Not only is relief prompt but the condition is markedly ameliorated, further extension of the process being prevented. Pruni-Heroin (Wyttenbach) easily takes first rank among expectorants, and by reason of its potent and well-balanced formula, definite results may confidently be looked for. A sample for the asking by addressing the Wyttenbach Chemical Co., Evansville. Ind.

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Alcohol may be added, from one-half to 2 ounces, to make it any desired strength; or it may be omitted altogether. If prepared for women or children with thin, delicate skin, chloroform may be left out.

Wrap the end of the affected finger in a moderately thick layer of absorbent cotton; saturate it thoroughly, though not to excess, with the "felon oil," by dropping on it by degrees. Slip over all a heavy rubber finger stall and let remain on undisturbed for ten or twelve hours. In the majority of cases one application does the business, *i. e.,* according to the time the inflammatory process obtained a start on the medication. If the throbbing pain has already set in, even then the felon will be scattered. It may be necessary to repeat the application several times, once every twelve hours. If chloroform is used in the mixture, care should be taken to prevent vesication on the dorsum of the finger around the root of the nail, which the fumes of the evaporating chloroform would be apt to do. To prevent this, the patient should be instructed to let the fumes of the chloroform out—if the burning pain is severe, by raising the finger cot on the upper part of the finger with a knitting needle during the first fifteen or twenty minutes after the application has been made.

As a rule, the application is painless. Epidermis will, of course, come off after due time. The indication to discontinue further medication will be absence of pain when pressing the finger. I have omitted to say that to prevent vesication dorsum the finger may be covered with thin slices of yellow soap.—S. Kociell.

Medicine Lodge, Kan.

The diagnosis of smallpox is something which can hardly be acquired from academic teaching. The clinical demonstration is really the only effective method, and pupils who become terror stricken, at sight of a variolous patient, should be trained not to fear the disease. An easy familiarity with the trouble will soon engender confidence and dispel all fear of it. This latter is, perhaps, more difficult than the mere teaching of the manner of formulating a positive diagnosis. To make a positive statement, in regard to a suspected case, is a matter that is very serious and involves more responsibility that is usually supposed. It involves the question of a protective quarantine of a community as well as the segregation of the affected individuals. These are things that should be carried out, before a slowly moving Board of Health makes up its mind to do so. For these and several other reasons, a good knowledge of smallpox, and its appearance, should be acquired.—*Am. Jour. of Derm.*

Closely Related.

Mother—Samuel, where are those green apples that I left in the pantry?

Samuel—They're with the Jamaica ginger that was in the medicine chest.



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A Method of Staining Capsulated Bacteria in Body Fluids.—By Dr. William H. Smith (*Boston Medical and Surgical Journal*, Vol. CLXIII, No. 21, November 24, 1910, p. 791).

The following method is recommended for staining capsulated bacteria in body fluids:

1. Make a thin smear from fresh sputum, lung, pleural or pericardial exudate.
2. Pass through flame.
3. Cover with 10% (ten per cent.) aqueous solution of phosphomolybdic acid (Merck) four to five seconds.
4. Wash in water.

If the microörganism is Gram-staining like the pneumococcus or streptococcus mucosus capsulatus, stain with

5. Aniline oil gentian violet, steaming one quarter to one half minute.
6. Wash in water.
7. Treat with Gram's solution of iodine, steam one quarter to one half minute.
8. Decolorize with 95% alcohol.
9. Wash in water.
10. Stain with 6% (six per cent.) aqueous solution of eosin (Grübler's w. g.) one half to one minute, warming gently.
11. Wash in water.
12. Wash in absolute alcohol.
13. Clear in xylol and mount in Canada balsam. The capsule will be found to be distinct, clear cut, eosin-stained, about the Gram-stained microörganism.

If the microörganism is Gram decolorizing, after covering the smear with phosphomolybdic acid and washing:

1. Stain with 6% (six per cent.) aqueous solution of eosin one half to one minute warming gently.
2. Wash in water.
3. Counter stain with Loeffler's methylene blue one quarter to one half minute, warming gently.
4. Wash in absolute alcohol.
5. Clear in xylol and mount in Canada balsam. The capsule will appear eosin stained about the blue-stained microörganism.—*Post Graduate.*

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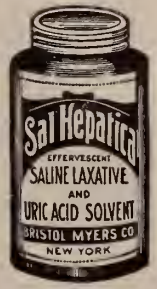
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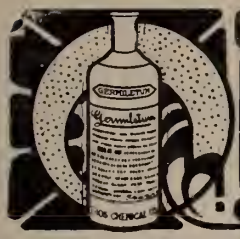
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606 and the Antivivisectionists.

S. J. Meltzer closes his editorial in the October *New York State Journal of Medicine* on "The Practical and Scientific Significance of '606,' Ehrlich's new Remedy," with the suggestion that "the public should never forget that without animal experimentation the discovery and development of this useful remedy would have been absolutely impossible."

We doubt very much whether those sections of the public made up of the antivivisection clowns will be very much impressed by this last most conclusive argument in favor of rational experimentation upon animals. For they will argue that syphilis results from, and owes its prevalence to, vicious practices, and that a remedy like "606" only puts a premium upon them.

The passage of a sound or catheter into a tortuous or narrowed urethra is facilitated by injecting the urethra full of sterilized olive oil. —*American Journal of Surgery.*

In successive crops of boils, do not forget sulphide of calcium in grain doses, three or four times daily until the system is saturated.—*Sentinel.*

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¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

¶ It is the same pleasant, gentle laxative, however, which for many years past physicians have entrusted to domestic use because of its non-irritant and non-debilitating character, its wide range of usefulness and its freedom from every objectionable quality. It is well and generally known that the component parts of Syrup of Figs and Elixir of Senna are as follows:—

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¶ Syrup of Figs and Elixir of Senna is an ethical proprietary remedy and has been mentioned favorably, as a laxative, in the medical literature of the age, by some of the most eminent living authorities. The method of manufacture is known to us only, but we have always informed the profession fully, as to its component parts. It is, therefore, not a secret remedy, and we make no empirical claims for it. The value of senna, as a laxative, is too well known to physicians to call for any special comment, but in this scientific age, it is important to get it in its best and most acceptable form and of the choicest quality, which we are enabled to offer in Syrup of Figs and Elixir of Senna, as our facilities and equipment are exceptional and our best efforts devoted to the one purpose.

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How to Make Blood Slides.

I never go anywhere without carrying a couple of pieces of glass in my pocket. Ordinary window glass will do, but microscope slides are more serviceable. The first thing to do is to thoroughly wash the top of the ear and prick it. Never pierce the finger. The ear is the least sensitive and the finger the most sensitive part of the body. A drop of blood is then placed near one end of a glass slide and the other slide is used as a spreader and the drop is simply carried along as if you were spreading butter. You cannot do this wrong if you should try to. The glass slides are easy to carry and to clean and quite hard to break. They can be sent through the mail and the blood slides will keep indefinitely unless there are flies around. In such case, they should be covered securely.—*Richard C. Cabot.*

Trichinosis.—Oedema with slight erythema (*The Hospital*) over the swollen tender muscles is very suggestive. In its most characteristic form the œdema occurs in the eyelids and over the eyebrows, and when this appears early in the disease its diagnostic value is considerable. In the hands and feet œdema usually occurs late.

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Baby Opium Eaters.—In England the charge is made that many babies are unconscious opium eaters, and the alleged habit of giving drugs to infants of the well-to-do class, as well as to the children of the poor, is declared to be a menace to the national health of Great Britain. A writer in the *Contemporary Review* declares that although it is usually the very poor who are spoken of as needing education in the care of children, the rich and the middle classes in England are incredibly ignorant of the proper diet for babies. Mothers permit babies to be drugged with sedatives administered by lazy and stupid nurses; "if once you know the traces of opium you may take a walk in Kensington Gardens and see the writings upon a hundred little white faces." An English physician, commenting on this observation, declared that in the form of opium, chloral or bromide, the children of the well-to-do "get through quite a large amount of the most potent drugs in the few months of life nowadays, just as poorer children get gin and brandy." Both drugs and alcohol are administered for precisely the same purpose—to stop a child crying at night. There are nurses (it is alleged) who, assuming that an infant cries for the pure joy of keeping them awake, rub opium under its finger-nails. The infant then sucks its fingers—and goes to sleep; six months of such treatment results in victims nervous, listless, wild-eyed, with a neurotic temperament for a life-long sequel. Mothers are warned against nurses in whose charge the baby never cries and always sleeps—*Medical Times.*

PROTECTING THE BABY.

His Wife—She's the baby's new nurse.

Husband—I suppose she understands her business?

His Wife—Yes; she's a graduate, and she'll take good care of the baby; she says no one shall kiss the baby while she is around.

Husband—I guess she's right; I wouldn't want to kiss the baby while she was around.

Fired.—*Exchange.*

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Young lady patient—"Doctor, what do you do when you burn your mouth with hot coffee?"

Doctor—"Swear!"

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Our aim to prepare antiphlogistine with scientific accuracy and to suggest its employment, wherever moist heat is indicated, is due to our desire to supply a remedy which will benefit both the patient and the doctor.

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The Medical Department of the University of Vermont will appreciate it very much if any of the Alumni can furnish catalogues of the Medical Department of the following dates to complete the files, 1857-66-7-8-9-71 and 73. These may be sent to the Dean.



COMPARISON OF 1910 AND 1909 RATES.

Comparison of the provisional death rates per 1,000 of population for 1910 with the death rates per 1,000 of population in 1909, for those states in which about 80 per cent of the deaths for 1910 have already been returned, is as follows:

California, 13.5 in 1910; and 13.4 in 1909. Connecticut, 15.6 in 1910; and 15.0 in 1909. Indiana, 13.4 in 1910; and 12.9 in 1909. Maine, 16.7 in 1910; and 15.6 in 1909. Massachusetts, 16.0 in 1910; and 15.4 in 1909. Michigan, 14.0 in 1910; and 13.1 in 1909. New Hampshire, 16.7 in 1910; and 16.9 in 1909. New Jersey, 15.5 in 1910; and 14.7 in 1909. New York, 16.2 in 1910; and 15.7 in 1909. Pennsylvania, 15.6 in 1910; and 14.7 in 1909. Wisconsin, 11.8 in 1910; and 11.8 in 1909.

The total number of deaths for the District of Columbia (city of Washington) for the year 1910 was 6,513 and the death rate was 19.6 per 1,000 population. The number of deaths for 1909 was 6,216, corresponding to a death rate of 19.0.

In general 1910 was a very favorable year, according to Chief Statistician Wilbur. This statement is the earliest of the kind ever given out by the Census Bureau.

ALCOHOL APPLICATIONS IN TYPHOID.—Cheinisse (*Semaine Medicale*) reviews the literature dealing with the use of compresses of alcohol in the treatment of typhoid fever, and states that he has employed these in twelve cases with excellent results. The writer's technique is as follows: A layer of absorbent cotton, or a compress of gauze folded in four, sufficiently large to cover the abdomen entirely, is soaked in alcohol. Excess of liquid is removed by expression lest irritating effects may be produced, and the compress is applied to the abdomen and covered by a similar one of cold water. This is covered with impermeable tissue, and the whole kept in place by means of a flannel bandage. The water compress is renewed hourly; the alcoholic layer may be left *in situ* for several hours. Any irritation of the skin may be relieved by the application of lanolin. The treatment is particularly suitable for children, and the author considers it superior to cold baths. The alcohol has a favorable action on the activity of the heart, thus warding off dangerous complications.

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A KEEN LAD.

"I had always heard that New Englanders were 'smart,'" a young physician who was "graduated" from a village practice, remarked the other day, "but I hardly thought it developed at such an early age."

He smiled reminiscently, then continued:

"Just after I settled in Dobbs Corners, a twelve-year-old boy called on me one evening."

"'Say, Doc., I guess I got measles,' he remarked, 'but nobody knows it, 'cept the folks at home, an' they ain't the kind that talks if there's any good reason to keep quiet.'

"I was puzzled, and I suppose I looked it.

"'Aw, get wise, Doc.,' my small visitor suggested. 'What will you give me to go to school an' spread it among all the kids in the village?'" —*Lippincott's.*

LARGE DOSES.

Fortieth Friend (since breakfast)—"By Jove! Old fellow, you've got a fearful cold! What are you taking for it?"

Sufferer (hoarsely)—"Advice."

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Vermont Medical Monthly.

VOL. XVII. MARCH 15, 1911. NUMBER 3.

ORIGINAL ARTICLES.

PRACTICAL POINTS ON DIAGNOSIS AND TREATMENT OF UPPER ABDOMINAL DISEASES.

BY

DR. MAYNARD,

Attending Surgeon to the Mary Fletcher and Fanny Allen Hospitals.

The only excuse for the existence of this paper is the author's desire to lend a hand in the simplification of our methods of study and examination of upper abdominal diseases thus enabling the general practitioner to more readily master them.

We stand to-day in the same relation to these diseases that we did fifteen years ago with reference to appendicitis, and here as there pet theories must give place to solid facts gleaned from operating and autopsy rooms.

Dr. Wm. Mayo often says that he used to be a fine diagnostician until he began to cut down upon his diagnoses, which accounts for the modesty of this truly great surgeon.

If we remember that the liver and pancreas are formed by budding processes from the alimentary canal, and that the same nerves supply the lower right chest, the gall-bladder, part of the duodenum and the appendix, we shall not be so much surprised to find that they have so many symptoms and reflexes in common.

The stomach and that portion of the duodenum above the entrance of the common duct are formed from the foregut and are thus similar in their functions and diseases, while the remainder of the duodenum is formed from the midgut and is like the small intestine.

It is necessary to have a clear recollection of the location of the organs to be studied or we will be unable properly to examine a patient.

The cardiac orifice of the stomach is beneath the seventh costal cartilage one inch to the left of the sternum and opposite the 9th dorsal spine. From here the fundus extends upward and to the left as high as the 6th sterno-chondral articulation while the lower border arches down and to the right to a point about two fingers' breadth above the navel on a line with the costal cartilage of the tenth ribs. When the stomach is empty the pylorus is just to the right of the middle line, two or three inches below the sterno-xiphoid articulation and on a level with the bony ends of the seventh ribs and the 12th dorsal spine. When full, the stomach pushes the pylorus about two inches to the right, and if distended the anterior face of the stomach comes close to the abdominal wall looking somewhat upward, and the lower border swings forward and upward thus facilitating our examination. The close relation of the stomach to the diaphragm and thoracic viscera and its supply from the pneumogastric nerves explains many reflex and mechanical conditions arising from this organ.

From the pylorus the duodenum passes outward and backward close to the upper pole of the right kidney; then descending in front of its inner border, for about three inches, to the level of the third lumbar vertebra, it turns to the left and upward crossing the spine obliquely, ending in the jejunum at the left of the body of the second lumbar vertebra. During its course the duodenum surrounds the head of the pancreas on its left, and as it passes in front of the spine it also passes beneath and behind the superior mesenteric vessels which fact accounts for those cases of marked obstruction arising at this point in patients with sagging of the mesentery. This occurred in one of my cases to be reported later.

The pancreas passes from the duodenum to the left behind the stomach and in front of the second lumbar vertebra which is about three inches above the navel.

Remembering our anatomy we should proceed to thoroughly examine our patient. Not his gait and poise for he may so stand and walk as to remove much of the natural support from the abdominal viscera, or he may have the ear marks in build which we have learned to associate with splanchnoptosis. The upper abdomen may be hollow while the lower abdomen bulges indicating a sag of the mesentery, the white color of the skin may suggest a slow hemorrhage, or the jaundiced hue will direct our attention toward

the liver and its ducts as will the enlarged superficial abdominal veins. The catchy breathing and fixed muscles of diaphragmatic pleurisy, or the bulging ribs of a subphrenic abscess may attract our attention. Upon palpation we may note the rigidity of the upper or lower recti giving reliable information of localized peritoneal irritation, or we may find localized points of tenderness over inflamed organs or ulcers and at reflex centers, while the outline and character of simple dilatation, dilatation of the dome, hourglass deformity or gastroptosis. The upper or lower margins of the liver may be made out or a distended gall-bladder with its enlarged Reidel's lobe discovered, and if we find liver dullness diminished or absent, and free fluid in the abdomen, we have important information indicating perforation of the gastro-intestinal tract.

Our chief means of diagnosis between mechanical and dynamic ileus is by auscultation for



Showing Duodenum Passing Under Sup. Mesenteric Vessels.

tumors may be determined, an anurismal thrill felt or the mobility of the right kidney and the amount of dragging upon the pylorus or duedenum judged.

Succussion is a form of palpation to determine the "stomach splash," which if present more than three or four hours after a meal, would point to marked insufficiency with dilatation or obstruction or both.

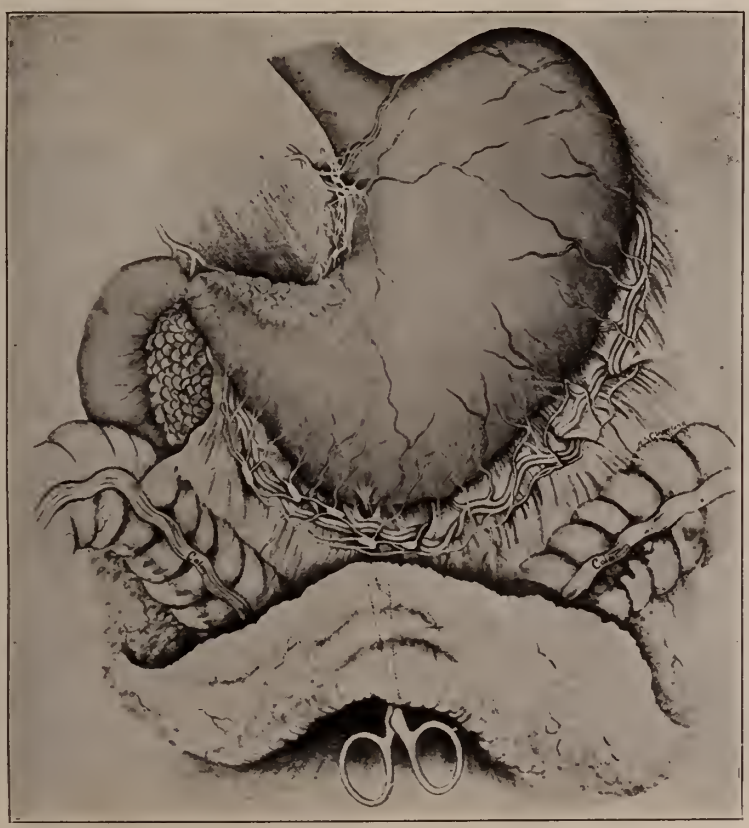
By percussing the stomach empty of food and liquid and filled with air, we may determine a the loud, high pitched intestinal sounds heard in partial or complete obstruction are pathognomonic of these conditions, and by listening at a point three inches below the left scapula, we may hear the atmospheric rushing sound made by a bolus of food as it enters the stomach, or we may hear liquid as it drops through a strictured cardiac orifice into that already in the stomach. It normally takes food four seconds to pass from the mouth to the stomach which

time may be greatly lengthened in stricture or cancer of the cardia.

Auscultatory percussion is often helpful.

If by practice and observation we become reasonably skillful in the use of what we might call these natural means of examination, we will seldom need other instruments than a stomach tube and bulb syringe, and have only occasional use for transillumination or the X-ray.

eating or drinking nothing from this time until he appears at your office at seven the next morning when you give him a penny roll and a glass of water, passing the stomach tube and withdraw the same in from forty to forty-five minutes later. If the stomach contents contain raisin skins it is sufficient ground for a drainage operation upon the stomach, i. e., a posterior gastro-enterostomy. Before the tube is with-



SADDLE ULCER.

Fig. 2.—Showing forceps passed through from behind and grasping anterior gastric wall near the greater curvature at the lowest point. Saddle ulcer of lesser curvature near pylorus.

After a carefully taken personal history, the value of which cannot be over-estimated, we should strip our patient's abdomen for physical examination. The "stomach splash" may enable us to make out the lower border of the stomach, and if stenosis of the pylorus, or other causes of poor drainage are suspected, he should be directed to eat a handful of raisins swallowing skins and all except the seeds at seven p. m., drawn the bulb syringe may be attached to it and the stomach pumped full of air, thus enabling us to determine its size, location and shape, and if thought best lavage of that organ may be performed.

We have now without any complicated machinery determined the motility and drainage of the stomach, its size and shape, and probable ulcerations or erosions, and by a careful

analysis of the test meal its chemistry is at our disposal.

We must not, however, forget the contra-indications for the passage of a stomach tube which may be briefly enumerated as advanced age, or marked arterial sclerosis, &c., thoracic aneurism, advanced tubercular disease of the lungs or recent hemorrhages from the lungs or stomach.

A brief consideration of the more common and reliable symptoms of gastric and duodenal ulcers is next in order.

Severe pain and shock from perforation may be the first and last symptoms seen in a given case, or haematemesis, or intestinal hemorrhage, followed by its acute anaemia, may be the first symptoms to attract attention.

As a rule the patient complains of a burning, boring, or gnawing pain which if the ulcer is in the storage portion of the stomach is made much worse by the taking of food which gives us a valuable sign of ulcer in this location, i. e., "food distress." If the ulcer is in the pyloric portion of the stomach beyond the Cunningham sphincter, we find that this burning pain is much relieved by food which relief lasts from one to one and one-half hours. This has been styled by Moynihan as "food relief," and is our most valuable symptom. If the ulcer is in the duodenum the "food relief" lasts for two or more hours which is in turn followed by the "hunger pain" coming on when the stomach is pouring out its most acid contents. This pain can again be stopped by giving food or alkalies and so on, the pain, especially in duodenal ulcer comes on with great regularity waking the patient at certain hours in the night to be relieved by some milk or bread which the victim soon learns to prepare for the occasion. These ulcer cases have been styled "clock stoppers" from the regularity with which the pain returns both night and day.

We then have in the case of ulcer of the "storage stomach," "food distress," in the case of ulcer of the pyloric portion, "food relief" for from one to one and one-half hours, and in ulcer of the duodenum the "food relief" lasts for two hours or more. In gall-stones the pain has no relation whatever to the taking of food.

If the pain has formerly been two hours from the taking of food and gradually has come down to say one hour, it is a sign that the duodenal ulcer has formed some fresh adhesions to the abdominal wall, gall-bladder, or liver, or that the pylorus is becoming stenosed. If the time is gradually lengthened from two hours, the ulcer is usually found tucked back; that is, drawn up high above its usual location by the shortening of adhesions.

An interesting symptom in stomach ulcer is that the patient is the most comfortable when the ulcer is above the acid contents of the stomach; thus, if the ulcer is on the lesser curvature, he feels better standing, if on the greater, when he has his hips higher than his head, if on the anterior surface, when lying down, if in the cardia, while lying on the right side and so on.

Blood in the vomitus or stools is a valuable symptom, and if we include the finding of occult blood, it will be present at some time or other in practically all our cases.

In gastric ulcer the blood may be vomited in large amounts while black tarry stools (melena) may be passed, but not to the same extent as in duodenal ulcer, in neglected cases of which the patient not infrequently dies from intestinal hemorrhage while the vomiting in the latter ulcer is limited. These hemorrhages are generally present only in cases allowed to go on without operation, and should never occur if the case is properly handled.

In fully 90% of gastric ulcers there is hyperacidity while in duodenal ulcers it is common, but by no means constant, and 2% of the recorded cases of achylia-gastrica have been found to have ulcers.

While the acid remains high there is little mucus and few bacteria both of which rapidly increase as the acidity falls which, of course, renders the patient a much less desirable surgical subject.

The motility of the stomach is as a rule much increased and remains so while the acid is high until there is a dilatation and lost compensation from stricture of the pylorus resulting from scar tissue formation.

Ulcer cases usually have periods of apparently complete recovery when they can eat anything and these periods may extend over four or five years, when they have another attack more severe than the first. These attacks come on more frequently and are less and less perfectly recovered from until the patient is much reduced

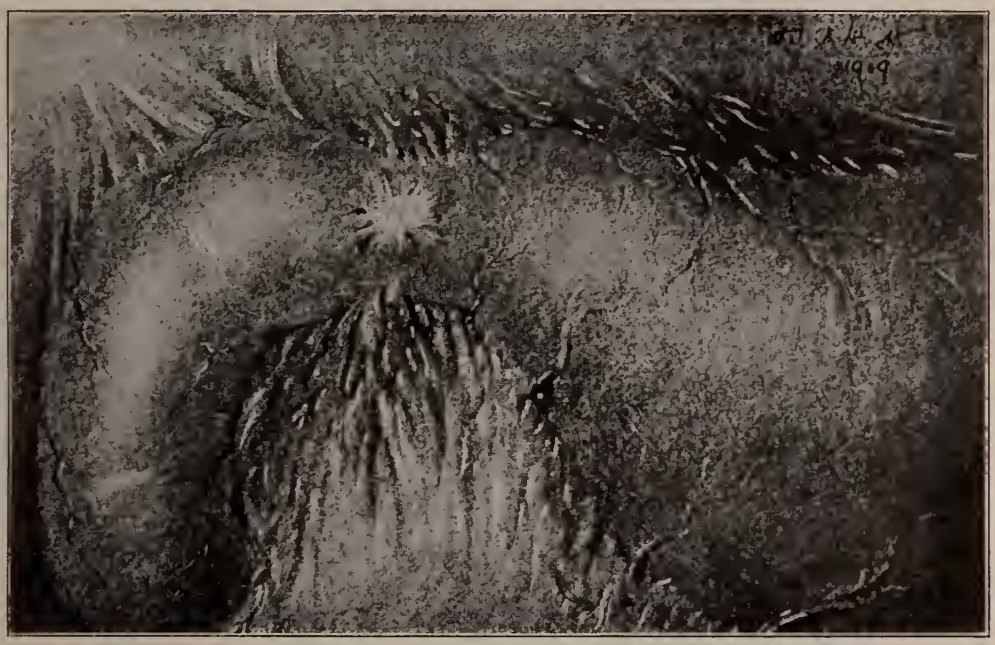
in flesh and strength by his suffering and from living on "foodless foods." He "almost gets well" but not quite as well as formerly. It is now that he comes to the surgeon, and let us hope that it is before the case has become too desperate.

The physical signs of gastric and duodenal ulcers are of slight importance compared to the symptoms; as these signs, tender points, &c., may only be present during the presence of pain. The most tender point in gastric ulcer is like the pain often limited to an area one or two inches in diameter just below and to the left of the ensiform cartilage, and from here sharp pains may shoot to the left side of the back near the spine, over the 9th, 10th, and 11th ribs where there is sometimes a tender point known as the reflex center of the stomach.

In duodenal ulcer an examination reveals nothing in the majority of cases. There may be tenderness to the right of the middle line over the duodenum with rigidity of the upper right rectus, and there may be a reflex center and tender point to the right of the spine below the angle of the scapula, but these are inconstant and it is unnecessary to wait for them. Moynihan says that he has never failed to demonstrate an ulcer of the duodenum at operation where the symptoms were present.

The common symptoms of the ordinary case of duodenal ulcer have been described, but there are cases of long standing where you may have to go back to the early attacks to get the account of the "hunger pain" and "food relief" as the only symptoms of which the patient may now complain is eructations of a sour and bitter secretion from the stomach which skin the mouth and set the teeth on edge.

As a rule recurrent attacks of hyperchlorhydria are cases of gastric or duodenal ulcer.



Duodenal Ulcer.

Cases of pyloric or duodenal ulcer are frequent sufferers from cramp like pains which may be referred from the pit of the stomach to the back on the right or left side of the spine beneath the scapulae and is due to pylorospasm excited by the contact of the acid secretions or irritating food particles with the sensitive ulcer.

The complications of gastric ulcer are hemorrhage, perforation, either partial or complete, leading to localized or general peritonitis, or possibly to sacculated abscesses or subphrenic abscess, or to perforation of the diaphragm, pleura or pericardium.

Stenosis of the cardia or pylorus, or hour-glass stomach, may result from the formation and contraction of scar tissue.

Perforation is said to occur in 6 or 7% and the mortality of gastric ulcer is given as 10% and added to this should be those cases of carcinoma of the stomach of which 78% begin in the base of a chronic ulcer.

The complications of duodenal ulcer are quite the same as those of gastric ulcer with, however, a greater tendency to death from hemorrhage. Stenosis of the pylorus is a common late symptom and may lead to a dilatation of the stomach greater than that found in pyloric cancer. Fully one-third of the cases not treated by operation suffer from intestinal hemorrhage, and perforation either partial or complete is given as occurring in 43% of the cases.

Fully 80% of chronic gastric or duodenal ulcers are in men and 75% of these are in the duodenum.

Ninety per cent. of all gastric ulcers are in the pyloric end of the stomach while 20% involve the pyloric ring.

A very large proportion of duodenal ulcers are in the ascending portion or in the first one and one-half inches of that organ.

Tumor cases in which stenosis of the pylorus is produced, whether simple or malignant, bring early recognition and are thus favorable cases for a cure if operation is not delayed on one pretext or another. As has been said most cancers of the stomach start in chronic ulcers, and as we know, cancer of the stomach is of very common occurrence. It has also been stated that seventy-five percent of all ulcers are in the duodenum, and still a primary cancer of that organ is extremely rare, almost unheard of. The reason for this is not clearly understood.

In all stomach cancers a thorough rectal examination should be made to discover the growth, which in 6%, may be felt as a nodular mass across the rectum resulting from the growth of particles or grafts which have floated from the parent growth above, lodging on the rectum or bladder in the male, or the uterus, tubes, ovaries or rectum in the female. About one percent have a hard button at the navel, the growth having followed the old Vitellin duct. The supra-clavicular glands should also be examined. Based upon a report of five hundred stomach cancer cases treated at St. Mary's Hospital, Dr. Mayo says that if these rules are followed fully 12% of incurable cases may be advised against operation.

The treatment for gastric and duodenal ulcers may be said to be both medical and surgical, but one of the most common mistakes is in continuing the medical treatment when all hope of cure has long ago vanished.

The first one or two attacks are usually seemingly recovered from with little or no treatment, but it is during this period that a more thorough and systematic medical, hygienic and dietetic treatment may bring us better results than formerly. It may be that we should continue longer to neutralize the excessive acidity usually present in these first attacks and by so doing allow the ulcer to fully heal which it is only too prone not to do.

After these ulcers have become chronic we may, in the words of Dr. W. Mayo, as well pour our bismuth, &c., &c., down a patient's pant leg hoping to heal an ulcer of the leg, as to expect to cure one of these indurated and dangerous ulcers by medical treatment. The treatment for chronic gastric and duodenal ulcer is purely surgical, and the sooner the case is so treated the earlier his health will be restored, and many distressing and dangerous complications will be avoided. It is well recognized that the only treatment for the complications of ulcer is surgical, if the patient is not so near dead as to be unable to undergo an operation, but these complications in the vast majority of cases, let me repeat, are the result of neglected opportunities.

Operate while the acids are high for you will now have a field free from bacteria and will be in time to prevent, or operate upon cancer with a promise of good results. Where operation is delayed until the laboratory picture of cancer of the stomach has been drawn, it is too late to give the patient a chance for recovery.

The functions of the gall-bladder are to equalize the pressure within the hepatic, common and pancreatic ducts and to secrete mucus.

Opii has taught us that the most common cause of acute pancreatitis is the flooding of the duct of Wirsung with infected bile due to the plugging of the ampulla of Vater by a stone of sufficient size to prevent the escape of bile into the intestine, but not large enough to block the pancreatic duct. The bile being under higher

pressure than the pancreatic secretion is forced into the pancreatic ducts thus causing inflammation. Were it not for the gall-bladder this might occur at any time without the presence of stone.

We have also learned that if uninfected bile free from mucus is injected into the pancreas it will cause acute inflammatory reaction while with mucus it does not. All the mucus found in the bile is secreted by the gall-bladder, and so owing to these important functions this organ is not removed except for good and sufficient reasons, and in cases where it has been done we now know that the common duct dilates to take its place.

The diseases of the gall-bladder are strikingly like those of the appendix, only in this case we have a larger and more roomy organ Inflammations here like those in the appendix are due to infections and poor drainage and may result in mere catarrhal inflammation with that low grade of infection conducive to gall-stone formation, or it may be so severe as to cause acute fulminating cholecystitis with gangrene and perforation of the gall-bladder. The presence of stones in the gall-bladder indicates disease as surely as does the presence of enteroliths in the appendix, and in either case we may have attacks of colic due to the passage or attempted passage of these concretions to the intestinal canal. Such conditions may go on in either organ without endangering the patient's life as long as drainage is fairly good, or until the organs become so



Duodenal Ulcer Adherent to Gall-Bladder.

filled with concretions, or so contracted upon them as to cause ulcerative changes from pressure when if acute inflammation is added the case may soon become most serious, perforation resulting in a short time from pressure necrosis. But here the likeness of the diseased organs ceases for in gall-stone disease we may have these concretions arrested in the cystic duct, the common duct, or in the ampulla of Vater producing serious troubles from the damming back of secretions from liver and gall-bladder. Complete obstructions are not attended by the same severe infections as are the partial, but any obstruction to drainage will produce more or less cholecystitis and cholangitis depending for its severity upon the bacteria at hand. There may be inflammation of the gall-bladder of mild or severe type without the presence of stone, but there is no case of stone without inflammation of acute or chronic type. If we operate upon the first sign of gall-stones we already find inflammatory changes in the gall-bladder which it has taken months or years to produce. Chronic gall-bladder disease interferes with the patient's health by pain, chronic infection, and reflex stomach symptoms. So closely may these reflex stomach symptoms resemble those produced by diseases of the stomach, and so severe may be the gastric catarrh produced by the chronic sepsis that it may be difficult or impossible at times to make out the underlying disease. The patient may have the severe burning pain which accompanies gastric and duodenal ulcer and at times food may seem to aggravate the pain. The patient frequently complains of belching of gas and fullness after meals suffering much from chilly sensations, or creepy chills running up and down the back. She is frequently seized with a pain in the pit of her stomach which comes on suddenly and with great severity causing a faint feeling with nausea. She is bathed in a cold perspiration, the pulse is weak and the countenance anxious. Finally free vomiting occurs and she is relieved. If at this time we do not go thoroughly into the case it is little wonder that we call it an attack of acute indigestion with stomach cramp or gastralgia.

Gall-bladder disease gives both local and referred pain, the localized pain being of two types, i. e., a dull aching sensation due to increased tension and inflammation limited to the gall-bladder, which may last for years, and secondly an acute almost intolerable pain which results from a more intense infection and widespread inflammation which may be the signal for serious complications if operation is not resorted to at once.

According to Murphy who has made exhaustive experiments, irritation of the gall-bladder and cystic duct gives pain in seven out of ten cases in the right sub-scapular region. In one case it was referred to the left, and in two to the front of the chest as high as the neck. We have lately had a case with two large stone in the gall-bladder and without having passed any stone, who for over a year had had pain under the right costal arch, at the pit of the stomach, beneath the right shoulder blade and as high on the back as the tip of right shoulder. The removal of these stones gave relief showing that irritation of the gall-bladder alone may give reflex pains to all these points.

There is probably no more severe pain than that suffered by one passing a biliary calculus, which is referred as a rule to the pit of the stomach, the back beneath the right shoulder blade, and sometimes to the right or the left shoulder. The causes of this colic are said to be many but we must agree with Murphy and Moynihan that there is no evidence that biliary colic is ever due to other causes than the entrance into or passage through some part of the ducts of a gall-stone, or altered bile and mucus, thereby exciting spasms of their muscular walls. The pain may be produced by stone impinging within the cystic duct, producing the stomach cramp and nausea previously described, which falls back into the gall-bladder during the relaxation resulting from vomiting and the patient is at once relieved. These attacks may recur at intervals for years when at last the calculus may be passed after a severe attack, great danger to life and severe suffering. Even after attacks, when it would seem that the patient would die from shock, they usually recover rapidly if the stone is passed and it is remarkable how suddenly the patient will pass from a condition of extreme suffering to one of quiet comfort when the stone finally finds its way into the intestine.

Should, however, the stone become lodged in one of the ducts, the pain continues for several hours and gradually ceases; to recur again and again as it works down.

An attack of choleocystitis is accompanied by fever which is often preceded by a chill. In the catarrhal variety it may be slight while in the acute fulminating type it runs high and the patient is extremely septic. Chills and fever are common with gall-stone attacks both being due to sepsis, while the fever is characterized by its abrupt rise and fall, and when recorded has been styled the steeple chart.

After the acute symptoms of pain, chills and fever have been present for a short time, in about 14% of these cases, we find another symptom which has been thought to be necessary to establish a diagnosis, i. e., jaundice. It occurs only in a limited number of gall-stone cases and in many of these is only transitory, showing only in the white of the eye or in the urine for a brief period, and it may be necessary to use Moynihan's test which is to allow the patient's blood to stand in a capillary tube until the serum separates when if bile is present, a yellow tinge will be noted whereas normally it is perfectly clear.

In view of the fact that 80% of chronic gastric and duodenal ulcers are in men and that about 80% of gall-stones are in women, it is safe to say that many cases of jaundice in men are due to extension of catarrhal inflammation from the duodenum to the ducts while in women few cases are so caused, but may be caused by the catarrhal inflammation extending down from the gall-bladder as well as the passage or impaction of stone. Jaundice due to gall-stones may be intermittent or remittent. It is intermittent when it is produced by catarrhal inflammation extending down the ducts from the gall-bladder. It is remittent when it is produced by stone in the common duct, or by one in the cystic duct protruding into or against the common thus closing its calibre. Here the duct gradually dilates letting the bile flow by only to be obstructed again as the stone slips farther down. The result of these conditions is that the jaundice partly but never entirely clears only to be deepened shortly by the complete obstruction.

Jaundice may also be due to malignant disease of the ducts, or head of the pancreas, or to inflammatory conditions of the head of the pancreas as was produced in one of our cases which followed a boy's being crushed by a land roller.

In the cases of long continued jaundice due to stone within the common duct, the gall-bladder as a rule soon shrinks and there is no tumor of the gall-bladder, while if the duct is closed by pressure from without the gall-bladder is over distended.

In cases of carcinoma of the head of the pancreas, or of the ducts, the jaundice usually comes on slowly and painlessly, gradually deepening and with slight, if any remission, acquiring a deeper, greener hue than in cases of obstruction of the common duct due to stone.

These statements are well expressed in what is known as Courvoiser's Law. "In cases of jaundice due to blockage of the common duct a contraction of the gall-bladder signifies that the obstruction is due to stone; a dilatation of the gall-bladder, that the obstruction is due to causes other than stone." The gall-bladder may also be enlarged by obstruction of the cystic duct retaining gall-bladder secretion or pus. After getting the symptoms, a thorough examination of the patient is of great importance.

On inspection we may note the jaundiced skin, &c., the rigid upper abdomen which in acute inflammations is quickly noticed by palpation. If the muscles are not too tense we may note the enlarged liver, gall-bladder and Reidel's lobe, and by placing one thumb deeply beneath the ribs under the gall-bladder during expiration and asking the patient to inhale, we will find in those cases where the peritoneal coat of the gall-bladder is involved that the patient will stop with a sudden start during inspiration when the tender gall-bladder has been forced down upon the examining thumb.

We may also find "Boas' tender spot" or reflex center which is a condition of hyperesthesia about two fingers' breadths from the spine opposite the 10th, 11th or 12th dorsal spines. When once present this is apt to continue even when the tenderness over the gall-bladder disappears as does that of appendicitis, at times, between attacks. This test can be made with the faradic or galvanic battery but is usually well brought out by finger pressure.

The history and physical findings are often sufficient to base a diagnosis upon but in those cases where the symptoms are those of sharp attacks of indigestion we must repeatedly examine for gall-bladder tenderness and "Boas' tender spot," the finding of which is sufficient to clinch the diagnosis.

There is no doubt but the long continued and oft repeated attacks with their chills, fever, enlargement of the liver, inflammation of the gall-bladder and ducts, gradually produces irreparable changes not only in these organs but in the pancreas, which together with the stomach trouble, reflex or septic, often reduces the patient to a condition of suffering and chronic invalidism to say nothing of the repeated and almost constant risk to life existing in these cases. Compared to this the slight risk of operation shrinks into insignificance, and the lives saved by this means in acute attacks are among the hardest fought battles of surgery.

Cholelithiasis may be confounded with gastric and duodenal ulcer, carcinoma, inflammation of the pancreas, appendicitis, kinking of the ureter and vessels of the kidney, lead colic, affections of the right pleura and lung, the gastric crises of locomotor ataxia, and thrombosis of the mesenteric vessels.

One of the most important differentiations is between gastric and duodenal ulcer and gall-bladder disease, and here we must remember that ulcer of the storage stomach gives "food distress," ulcer of the pyloric portion of the stomach gives "food relief" for from one to one and one-half hours, ulcer of the duodenum gives "food relief" for two hours or longer, while gall-stone attacks or inflammation of the gall-bladder has nothing to do with food (some qualifications to this are noted in the preceding pages).

We may find gall-bladder disease and ulcer associated, or we may be at times unable to make a clear differentiation and can only say that there is one of three things, any one or all of which require operation. The reflex center for the stomach is beneath the left scapula while the reflex point for duodenal ulcer and gall-stones is beneath the right. Gall-bladder tenderness is more often present than the tenderness due to ulcer and is farther to the right or over the gall-bladder but ulcer of the duodenum may be adherent to the gall-bladder as we found in one of our cases. Chills and chilly feelings with fever is strongly suggestive of gall-bladder trouble as against ulcer.

In differentiating between perforating ulcer, cholecystitis and appendicitis which have perforated we must remember that the two former begin with pain and tenderness in the upper right abdomen and work down while the latter begins with pain and tenderness in the lower right abdomen and works up; while in the two former we are apt soon to find free fluid in the abdomen and in perforation of the stomach, or intestine, obliteration of liver dullness may demonstrate gas in the peritoneal cavity. The leucocyte count will soon be increased with a high percent of polys.

Dietl's crisis, or kinked ureter, usually is found in women and comes on following active movement. The pain is through the loin and increases, producing shock and vomiting. On palpation you find a hard oval mass in the loin or iliac fossa which can be replaced beneath the ribs when the symptoms cease. This usually occurs on the right side but when the symptoms are on the left side it may be either kidney or spleen. When it is the latter we may feel the notched border and will usually get the history of "its jumping out frequently."

In acute pancreatitis the patient has severe epigastric pains, vomiting and collapse, but this collapse is more profound and may prove fatal at once. If it improves it is to soon recur, each time deepening. The abdomen is flaccid and there is tenderness over the pancreas.

Lead colic occurs in painters, etc., and is associated with a retracted board-like abdomen and a blue line along the gums.

In right-sided diaphragmatic pleurisy the muscles are rigid, the breathing is catchy and we may get a to and fro friction sound and fremitus, and if the patient has recently had some suppurative abdominal lesion the possibility of sub-phrenic abscess will suggest itself while if there is slight cough with bloody expectorations or slight jaundice while bile is present in the stools, especially if there has been injury to the long bones of the lower extremities we probably have an infarction of the lung and the liver respectively.

In gastric crises we will have a syphilitic history and there will be other symptoms of locomotor ataxia, and we know that these patients may die from peritonitis without suffering sufficient pain to seriously attract their attention.

In thrombosis of the mesenteric vessels the sudden severe abdominal pain is accompanied by vomiting which is soon followed by the passage of bloody stools, the patient becoming collapsed, and should he survive long enough

these stools become putrid in character. An old heart trouble can usually be found.

We must not forget when diagnosing ulcer by hemorrhage that splenic anaemia, cirrhosis of the liver and hemophilia frequently cause bleeding from both stomach and bowel.

We realize that this is but an imperfect attempt to cover this interesting subject, but I have tried to hew to the line giving theories a narrow margin.

Only a few years ago there were many diseases supposed to originate in the right iliac fossa and from this complicated maze of symptomatology the fact that the appendix vermiformis is responsible for most of them now shines clearly out.

It will not be long before we will hear little of acid dyspepsia, hyperchlorhydria, acid gastritis, stomach cramp and the like, but in their places a better, a truer nomenclature will spring up, and gastric and duodenal ulcer and gall-stones will be understood in their full significance. Dr. Charles Mayo once said as he scooped out one gall-stone after another, "Gentlemen, these represent solid chunks of gastralgia."

In preparing this paper I have made free use of my notes taken during three most profitable trips to the Mayos' Clinic, and to the excellent works of Moynihan, Boas, and Bernheim, Kemp, Bland-Sutton, Robson, Opii, numerous gleanings from various medical and surgical journals, and a careful study of a fairly large number of abdominal cases upon which I have operated at the Mary Fletcher and Fanny Allen Hospitals.

DISCUSSION.

Dr. Rumrill of Randolph, Vt.:—There is nothing that I can add to this most excellent paper or outline of Dr. Maynard's. I agree that we cannot make too careful a diagnosis. One difficulty is that in most cases the patient tries to get relief by taking one thing and another, often patent medicines, before resorting to medical treatment and so the disease has been in the system five, six or even seven months before the doctor has a chance to make any diagnosis at all.

There are four or five conditions of the abdomen that are diagnosed much the same at first, appendicitis, gall-stones, and cancer of the stomach, they are all relieved by surgical treatment, and they are all supported by the same nervous system, the lower dorsal nerves. A severe pain in the back may be referred to any particular set of symptoms and also to several, and it is only by tests and carefully getting the history of the case that a diagnosis can be made. In cancer the discharge is much more putrid, and there is much more acid in the food remnant.

Dr. Bellrose of Rutland, Vt.:—The diagnosis of cancer in the stomach is very difficult, in early stages of the disease it is hard to recognize it, there are so many chemical changes that take place in the stomach. In the last or one of the last medical journals a description of a new test for cancer in the stomach was given. This is the glycyltryptophan test as given by Neubauer and Fischer. This test is based upon the fact that the food that is absorbed has to be changed to a simpler cleavage product. Proteins have to be changed in order to be absorbed into the system. Fischer has succeeded in making a product that closely resembles the natural proteins, glycyltryptophan. A test meal is given and after thirty to forty-five minutes is filtrated and treated with glycyltryptophan and the receptacle containing the mixture is placed in a thermostat for twenty-four hours, a few drops of acetic solution is added and a few drops of bromin. If the contents turn a reddish violet the presence of tryptophan is shown. Dr. Weinstein of New York has found a simpler way of testing for cancer, but the glycyltryptophan test gives practically positive results in all cancer cases.

THE MANAGEMENT OF CASES WITH SUGAR IN THE URINE.*

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There is perhaps no class of patients we are called upon to care for, of which our management has been so bad or which are so difficult to handle, as those cases that come to us with sugar in the urine. It is with the hope that I may be able to give some hints in the management of these cases, that I present this paper.

Normally the carbohydrates are passed from the stomach and intestines, as glucose, carried to the liver, where a part is stored as glycogen, a part stored also in the muscles, and the rest goes directly to the circulation. The liver and muscles act as reservoirs to store the glycogen so that the blood does not contain at any time more than the normal two-tenths per cent of glucose. The glycogen in the liver and muscles is reconverted to glucose as needed. Normally the carbohydrates as glucose are burned in the tissues to provide heat and energy by the combination of two internal secretions which have been shown to contain ferments, one coming from the Islands of Langerhans of the pancreas, and the other from the muscles. Both are necessary, the muscle ferment seeming to make active the pancreatic ferment. When the function of the liver or muscle in storing gly-

*Read at the January meeting of the Caledonia County Medical Society.

cogen is interfered with, or the ferments fail to burn the glucose in the muscles, sugar accumulates in the blood (more than two-tenths per cent) and the excess is promptly excreted by the kidneys as a foreign substance. Glucose can also be formed to quite an extent from the proteins of the food, one hundred grams of albumin yielding 60 grams of glucose, and under certain conditions glucose may also be formed from the body proteins.

In many cases the ability to utilize fats properly is also more or less impaired and derivatives of the lower fatty acids, beta-oxybutyric acid and its oxidation products diacetic acid and acetone (due to imperfect oxidization) are excreted in the urine. This occurs especially in conditions where carbohydrates are diminished in the diet or when the tolerance to carbohydrate is reduced, and often in the early stages of the disease can be prevented by increasing carbohydrate diet and necessarily of course the per cent of sugar excreted in the urine. The carbohydrates are concerned in providing the oxygen necessary for the ultimate oxidation of the fatty acids to CO_2 and water. Later in the disease, however, their production can not be stayed by carbohydrates and a dangerous acid intoxication ensues (acidosis).

Diabetic coma is due to this acid intoxication of which it is the final stage, and it is to be feared in all cases in which acetone occurs and when the daily output of ammonia exceeds three grams. This acetonamenia is the important index of the condition of the case, rather than the percentage of sugar. Acetone is the first of these products to appear in the urine as it is the most completely oxidized. When the products are less oxidized diacetic acid appears, and when still less oxidation occurs beta-oxybutyric acid may also be present. When this last appears the cases are usually advanced and severe, with absolute loss of carbohydrate tolerance with the excretion in the urine, not only of the ingested carbohydrates, but also of sugar derived from the proteins (ingested and in the body).

The increased per cent of sugar which results from the accumulation in the blood of unburned sugar, causes abstraction of water from the tissues to keep the sugar in solution; this in turn causes dryness of the tissues with subsequent thirst, polyuria and other subjective symptoms.

The loss of calories by the excretion of unburned sugar in the urine accounts for the increased appetite.

One hundred grams of sugar in the urine means a loss of 400 calories of heat and energy to the body and necessitates increased food to enable the body to lose the amount and still maintain its balance without loss of weight.

Our first care in a case with sugar in the urine should be to settle whether it is a glycosuria or true diabetes, and if diabetes whether it is a mild or a severe type of the disease. Each case must be studied separately.

We may call a case glycosuria if there is no disturbance of fat metabolism, and we can find a cause, toxic, neurotic or alimentary; the condition *transitory* or *intermittent,* and the amount of sugar small; *but these cases may be an early stage of true diabetes.* The mild cases of diabetes have a diminished tolerance for carbohydrates and in the severe cases of diabetes the tolerance for carbohydrates is lost. The severity of the case, however, is not to be judged by the *percentage* of sugar present in the urine, but from a knowledge of the relation of the output of sugar in the urine, to the intake of carbohydrates and proteins. It is also true that the disturbances of fat metabolism which result in acidosis have to be reckoned with in deciding as to the severity of diabetes. The severity of the acidosis can be determined roughly, but still accurately enough for clinical purposes, from the amount of bicarbonate of soda necessary to give a patient to render his urine alkaline when acidosis is present. Normally this amount is five to ten grams.

To determine the ability of a patient to assimilate carbohydrates, we use the following test: 100 grams of glucose (about 2 1-5 oz. by vol.) given in solution two hours after a breakfast of a roll and butter and a cup of coffee ought not in a normal person to cause glycosuria, if it does tolerance is diminished.

In a case of glycosuria, cutting the amount of carbohydrate to a moderate amount will usually be all that is necessary to cause the sugar to disappear in the urine; ordinarily it will need be cut only to 300 grams in twenty-four hours.

Having determined that we are dealing with a true diabetic we should ascertain the mildness or severity of the diabetes by placing the patient for a number of days (5 to 7)

on a diet free from carbohydrates to use up stored glycogen in the muscles, the so-called proteid-fat or standard diet, *providing* the case has not besides the sugar in the urine, acetone also present, or has not been on an excessive carbohydrate diet. (Table 1). If the case has acetone in the urine we increase the liability to coma by cutting out the carbohydrates from the diet. This must not be done abruptly in these cases since we may be sure that for present treatment such a case is of the severe form. If the patient has been taking carbohydrates in excess they should be gradually cut down through a period of three or four days before they are totally eliminated from the diet on account of the liability of such cases to coma when the carbohydrates are suddenly withdrawn. During the days when the patient is reducing the carbohydrates and on the carbohydrate free diet from four to eight drams of sodium bicarbonate should be given daily in divided doses. This tends to neutralize the fatty acids which when imperfectly oxidized cause diabetic coma. The urine during these days must be examined daily for both sugar and acetone. If at any time during this period of carbohydrate free diet acetone appears (the diet should be changed to include carbohydrates) as it is obviously a severe case if acetone appears on cutting down the carbohydrates, especially so if acetone appears before the amount of carbohydrate is reduced to 100 grams. If at the end of the five days, or before, the urine is sugar free, the case may be classed as a mild one, and the tolerance to carbohydrates will be found retained to a varying degree. Even if at the end of the five days the case is still excreting sugar one must remember that some of the sugar may be coming from the proteins ingested, and therefore the proteins may be cut to a considerable degree. In these severe cases by cutting down the proteins we can usually demonstrate that at least some of the sugar is being furnished from the body tissues since the stored glycogen in the liver and muscles will have been used up before the end of the five day period. Occasionally a hunger day (no food) at the end of the five day period will cause the disappearance of sugar. If the case is of a *mild* type still able to "tolerate" some carbohydrates we then determine how much carbohydrate the patient can take without sugar appearing in the urine, the *patient's tolerance to carbohydrates*. Gradually increasing amounts of carbohydrates are added daily to the standard diet for this purpose, as for instance, one slice of bread (equal to about an ounce) a day, the number of slices being gradually increased until sugar appears in the urine. This will give an approximate knowledge of the amount of starchy foods that the patient may safely take without sugar appearing in the urine. The tolerance of these cases may sometimes be markedly increased by an occasional day when no food at all is taken or only clear bouillon. This may be all that is necessary to do with these cases. Table 2 shows the relative value of some other carbohydrate foods in comparison with an ounce of bread, and any of these may be utilized in the proportion given in place of bread.

The severe cases, strange as it may seem, do better when some carbohydrate is allowed than when they are kept on a strict carbohydrate free diet. They digest and assimilate the proteids and oxidize fats better when the carbohydrates are also given.

Certainly any case is doing badly when losing weight, and the patient is better off with sugar in the urine, than with loss of flesh and most severe cases will lose flesh if kept on an absolutely free carbohydrate diet.

The subsequent treatment of the severe cases should be directed to the prevention or control of the acidosis, and to maintain nutrition and weight, with as little use of carbohydrates as possible.

The non-adherence of many of the severe cases to strict diet has probably at least prolonged lives by keeping down acidosis and coma by the use of carbohydrates.

Each case must be watched and the diet arranged for that particular case. The main danger lies in the acidosis and it is unwise to keep a patient on a strict carbohydrate free diet for any length of time. Most cases are able to take more carbohydrates when one kind of starch is given alone than when several kinds are taken. This is the basis of the potato and oatmeal cures. With regard to the fats fed, while it is known that the acetone bodies are formed chiefly from fats, their per cent is not influenced except by large quantities of fats. *Rest in bed* especially during the stage of de-

termining the severity of the disease is important; reducing the liability to coma, and reduces also the amount of food necessary.

Protein will give only ten to fifteen per cent of the required amount of energy the body needs. High protein is often a source of trouble and the fats must make up the great part of the diet if digested. Alcohol increases digestion of fats and spares other foods. Proteins ingested will, if there is *complete intolerance* to carbohydrates, yield 3.65 grams glucose for each 6.25 grams of protein.

DRUG TREATMENT.

Drug treatment is unsatisfactory, especially so without dietetic management, though drugs are useful. Opium and its derivatives are of much value, but should be reduced when the sugar excretion reaches a minimum. A habit may be formed, but there is marked tolerance. Arsenic in doses up to physiological effect and continued for a long time is of some value in reducing the glycosuria during its administration. Belladonna is of value in some cases, increasing carbohydrate tolerance. Hexamethylenamin is of use in cases apparently of renal origin. It is sometimes an irritant to the urinary tract.

Bromides are especially of value in treatment of nervous symptoms.

If syphilis is an etiological factor Hg and KI may be of use. Tonics are sometimes useful. The pancreatic preparations have, on the whole, been disappointing though we may expect some good from that direction later. About 90% of cases are associated with disease of the pancreas. Constipation usually calls for treatment.

Coma is usually a hopeless condition when fully developed. Where it threatens (three grams of acetone in twenty-four hours and the presence of diacetic acid) the carbohydrates should be added to the diet, or if already given, increased. It rarely will threaten if 100 grams of carbohydrate is being tolerated. Milk is one of the most valuable carbohydrate articles for use at this time. Levulose (fruit sugar) and oatmeal are also very useful, both on account of their ease of digestion and rapid assimilation by the tissues.

Fats of the lower fatty acids should be cut out of the diet and the total amount of fats diminished.

Butter if used should be washed free of fatty acids. Sodium bicarbonate should be given by mouth and rectum in large amounts, and intravenously sodium carbonate (2-4%) in normal salt solution.

If the patient can swallow, castor oil by mouth in large amounts is also useful since constipation is frequently a factor in inducing coma.

Complications which necessitate surgical procedures as gangrene or mastoid abscess should be cared for early and rapidly, and when possible not under general anaesthesia.

TABLE 1.

SAMPLE STANDARD TEST DIET.

Breakfast.

Coffee with 1½ ounces of cream; two eggs cooked with ½ ounce of butter; 3 ounces of ham.

Luncheon.

Bouillon with 1 raw egg; 3 ounces sirloin steak, chicken, or leg of lamb; 1 ounce of bacon; vegetable from list, 2 tablespoonfuls with ½ ounce butter; dessert made with 1 egg and 1½ ounces of cream; 6 ounces of wine, or 1 ounce whiskey or brandy.

Afternoon tea with ½ ounce cream.

Dinner.

Any clear soup; 3 ounces fish (salmon, shad or mackerel) with ½ ounce butter; ¼ pound roast pork, beef, mutton, turkey or lamb chops; vegetables from list, 2 tablespoonfuls, with ½ ounce butter; salad with ½ ounce oil in dressing; 1 ounce cheese, English, pineapple, Swiss or full cream; 6 ounces wine, or 1 ounce of whiskey or brandy, demitasse of coffee.

Protein	126 grams	=	515 calories.	(4)
Fat	222 grams	=	2065 calories.	(9)
Carbohydrate	15 grams	=	60 calories.	(4)
Alcohol	30 grams	=	210 calories.	(7)

TABLE 2.

Equivalent in ounces of some carbohydrate foods to one ounce of white bread in carbohydrate value.

Oatmeal	5 oz.	=	1 oz. bread.
Rice	2⅛ oz.	=	1 oz. bread.
Milk	10 oz.	=	1 oz. bread.
Bananas	2½ oz.	=	1 oz. bread.
Almonds	3½ oz.	=	1 oz. bread.

There are two things in this life, for which we are never fully prepared, and they are twins.

THE PRINCIPLES AND APPLICATION OF SERUM AND BACTERIAL THERAPY. *

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Perhaps I owe you some explanation for presenting a subject which has been worn so nearly threadbare by the exhaustive literature of the last few years. I am constrained to ask your indulgence in this consideration from the fact that I believe this study of the mechanism of infection and immunity has as yet, but given us a hint of what lies beyond. We are just beginning to imperfectly understand some of the simplest principles involved in the wonderful processes of nature by which our bodies escape or recover from the attacks of countless microscopic and ultra-microscopic foes which constantly surround every human being from the cradle to the grave. The brilliant results of the application of the few grains of knowledge which we have so laboriously acquired, hold out an alluring promise for the future.

It is difficult to safely and successfully apply the means already at hand in serum and vaccine therapy and certainly it will be impossible to follow the promised further development of this subject without a thorough understanding of a few of the basic principles already demonstrated. In view of all this, I shall venture to go over the ground with some if not all of which you are just as familiar as I.

INFECTION.

For a comprehensive consideration of immunity, it is very essential to hold clearly in mind the types of bacterial infection.

Mechanical Infection. The simplest form of infection is that which we see illustrated in anthrax of animals. Here the results are largely mechanical. The bacillus of anthrax finds in the blood stream of the guinea pig conditions ideal for its rapid propagation and within a very short time, the circulating fluids are thronged with such numbers that thrombi are formed in the smaller arterioles and capillaries by an actual accumulation of the bacterial bodies. Death results in just the same way that it would if we injected an equal number of absolutely inert dead bodies. There are very few examples of this form of mechanical infection.

Toxemia. Most bacteria multiply less rapidly in the blood stream but produce their inimical results by their poisonous products. These poisons may be soluble poisonous secretions of the bacterial cell, capable of being separated by filtration through suitable material; or they may be the bacterial substance itself, separable from the cell, only by its disintegration. This is a distinction of great importance and determines the variety of immunity produced. Organisms of the first class always cause general systemic intoxication whether growing in a strictly localized focus, as in tetanus or diphtheria, or scattered through the blood stream. These poisons are analogous with, but not exactly similar to chemical poisons, from which they differ (1) in their extreme virulence, (2) the fact that they require an interval (incubation period) for their action, longer than that required for passing through the circulation, (3) the variable action on different animals and (4) the fact that they tend to stimulate the production of a tolerance on the part of the body infected.

Bacteria of the other type (i. e. those with intracellular toxin) may produce local or general processes depending upon whether they are introduced into the blood stream or not, but in either case, they produce poisonous effects only on immediately contiguous structures until through some degenerative action, they have become disintegrated when their poisons can be carried to all parts of the body as in the other case. The tubercle bacillus is an example of an organism of this type. Infection produced by this class of bacteria is characterized by a longer incubation period, more slowly developing prodromal symptoms, and a longer course to recover.

IMMUNITY.

In the consideration of immunity, we should look upon the body as a collection of cells; then the disease phenomena resolves itself into a struggle of cell against cell. Every higher organism is provided with specialized cells whose sole purpose is to protect the more delicate structures within, from the entrance of the inimical agents.

Common Defensive System. Thus the skin and mucous membranes are constantly warding

*Read before the Clinton County Medical Society at Plattsburg, N. Y., Oct. 15, 1910.

off bacteria which would otherwise make trouble. When these are healthy and undisturbed, microorganisms are usually held at bay, but occasionally by breaks of continuity or by passage through less protected avenues, bacteria do pass this first line of defenses and in this event, we have called into play the wonderful internal mechanism of defense, tending to counteract the mechanical or poisonous effects of the invaders, produce recovery from the present attacks and immunity from subsequent attacks of the same species.

Natural or Racial Immunity. Right here at the start we see a most remarkable difference in susceptibility to the same infecting agents evinced by different species, races and individuals. Thus typhoid fever, cholera, meningitis, leprosy, influenza and the exanthemata have never been successfully transmitted to animals and conversely, chicken cholera and Rinderpest are innocuous to human beings. The anthrax which produces so fatal an infection in man and most animals, is perfectly harmless to rats and dogs. Tetanus has no effect upon the barnyard fowl; enough tetanus toxin to kill forty horses has been injected directly into the circulation of a chicken with no effect. These differences are seen among races. Thus the Indian, the Negro, and the Eskimo, are notoriously susceptible to tuberculosis and conversely the Negro is comparatively immune to yellow fever. These variations in susceptibility can be seen in individuals of the same race. It has come to the notice of all of you that some one individual in a family although subjected to the same exposure may escape most of the diseases of childhood from which the others suffer.

Mechanism of Natural Immunity. There are many elements which go to make up this difference in susceptibility to infection which we may designate as natural, racial or specie immunity.

In the first place, we may follow Ehrlich's conception of bacterial infection as an actual chemical union of the poison of the bacteria with the cell of the special tissue for which it finds an affinity. That this is so, there can be no doubt. Tetanus toxin can be removed from solutions containing it, by mixing emulsified fresh brain tissue with the material and then filtering it out. This being so, we have only to suppose a lack of cells showing this affinity to understand the innocuousness for the organism of certain bacteria and bacterial products. The explanation of the wonderful immunity of the hen from tetanus is probably accounted for in this manner.

In the normal blood of all higher animals, we find certain substances present which are capable of dissolving certain bacteria or neutralizing their products and finally the white blood cells of certain individuals seem to have the ability of dealing with diseased bacteria in such a way that unless the number of the invaders is enormous, they fail to get a foothold.

As a general rule, it may be said that a race among whom a certain disease has been endemic for ages, is less susceptible to that disease than are other races among whom it is recently introduced. Note the susceptibility of the Indians and Negroes to tuberculosis and the comparative immunity of the Negro to yellow fever. Smallpox seems to be losing its terrors and Russian la grippe in its old form, is almost unknown. While the elements of knowledge of prevention and cure of these diseases must be considered, these facts seem to indicate that racial immunity is to some extent at least, an inheritance from generations of acquired immunity.

Acquired Immunity. But unfortunately for us, this natural immunity is not active against all infections and the individual does frequently become infected as is made evident by a reaction which we characterize as the symptoms of disease. The tendency of all infectious disease is towards spontaneous recovery with more or less lasting immunity from subsequent attacks. Various factors, the product of the cells, stimulated by the organism of infection produce this result, and it can be safely said that if the individual's vital forces can be conserved over a certain critical time, when the battle between the body and the invading cells is hottest, the higher organism will win and the invaders perish. The character of these immunizing products is determined by the character of the invading germ.

Mechanism of Acquired Immunity. If it be an organism like the diphtheria or tetanus bacillus, rapidly producing a soluble toxic substance which may be absorbed into the blood or lymphatic system, and spread from the local point of production to every part of the body, the reaction of the body is indicated by the production of and the appearance in the fluids of a substance which enters into almost immediate

combination with the free toxins, neutralizing them and rendering them powerless to do farther harm. This is specific *antitoxin*. That it is a definite chemical body uniting chemically in definite proportions, with the toxin, can be demonstrated by test tube experiments. This material is a definite reactive product of the body cell, acting under the stimulation of the toxin. It is incapable of uniting with this toxin after it (the toxin) has become attached to the cell. The union of a certain amount of toxin with body cell is necessary for the stimulation of the latter, hence some intoxication is always present prior to the production of antitoxin. In other words, the *antitoxin is the product of an irritated body cell.* This substance has no effect upon the bacteria themselves, but there is produced in the body, more slowly, a substance known as bacteriolysin, which causes the death and disintegration of the bacteria eliminating the poison, thus completing the transaction. In uncomplicated diphtheria, the bacteria usually disappear in two or three weeks, but when we have with this disease, a chronic catarrhal condition of the tonsils, nasal pharynx or nose, this condition may interfere with solution and furnish suitable soil to maintain the germs alive a much longer time.

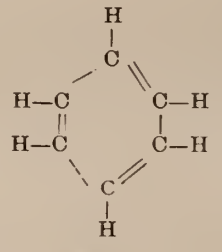
Now on the other hand, if the disease is caused by germs of the second class, i. e., those poisonous in themselves, as the pus cocci or tubercle bacilli, the effort of nature is directed first to the production of a substance which will dissolve the bacteria—*bacteriolysin*. This process liberates their toxins and causes the general septic symptoms of such cases. If these bacteria have a tendency to get into the blood, the production of dissolving substances is more rapid and the symptoms of intoxication more severe than when they remain localized. In certain infections, the body effects this destruction and solution of bacteria partially by the action of the white cells instead of by soluble substances alone, but even in these cases, it has been proven that there is present in the blood serum as a direct result of the stimulating reaction of the bacteria certain substances which attack the invaders and while not completing their solution, do so impair their resistence that they are more readily conquered by the leucocytes. To this substance is given the name *opsonin*.

Now while it is true that the first reaction product stimulated by these bacteria is a substance attacking the bacterial cell, and by its solution liberating the poisonous substance of which it is composed, it is also probably true that the poison resulting from this solution, is finally dealt with by a slowly produced antitoxin. These three principles or substances, *antitoxin, bacteriolysin,* and *opsonin,* are thus of most importance in nature's struggle against infection, but there are still others whose importance is less understood; agglutinins which cause the clumping of the bacterial cells, as seen in the familiar Widal reaction; precipitins which cause the precipitation of foreign proteids introduced, taken advantage of in the forensic test for human blood. These anti-bodies as they may all be called are stimulated not alone by bacteria, but may be produced against any living animal protoplasm, thus a spermatolysin is developed in the blood by the introduction of spermatic fluid; a haemolysin, by the introduction of foreign blood cells, and investigators are trying to develop a substance which will attack cancer cells. Any substance capable of giving rise to the production of anti-bodies is called an antigen.

The production of acquired immunity by the development of these various products may come about in the natural way by an attack of the disease or the production of a modified disease by strains which have been reduced in their virulence in certain ways, as is seen in the familiar vaccination against smallpox and rabies, or in Pasteur's method of vaccinating animals against anthrax; or it may be stimulated artificially by the introduction of the toxin of a germ, if it be one producing a soluble toxin, or, finally, by an introduction of the bodies of bacteria killed by heat or otherwise (vaccines). Of the immunity induced in all these ways that resulting from an attack of the disease is the most permanent. Any of these methods, however, result in the acquisition of an *active acquired immunity*. That is one in which the immunity is produced by the body itself as the result of stimulation by these various bacteria or bacterial products. *Passive immunity* is one which is acquired by the introduction of serum from some animal or man actively immunized. Thus with diphtheria antitoxin, the serum used is the result of an active

immunization produced by the introduction of the poison of diphtheria into the horse and it contains the antitoxins developed by the horse against this toxin. The serum of meningitis (Flexner's serum) is a serum which contains bacteriolitic principles produced by *actively* immunizing the horse. The organism of meningitis is one of the second class. That is one containing its poisonous elements within its own protoplasm. Flexner has succeeded in producing a serum which contains bacteriolytic substances and also antitoxic substances for the poisons liberated by the destruction of the bacteria. This has been the great stumbling block in the development of curative sera for those diseases produced by bacteria of this type. The too rapid solution of poisonous bacteria by the action of bacteriolytic sera has given rise to alarming symptoms.

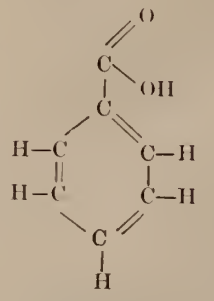
Side Chain Theory. Ehrlich in an attempt to explain the actual mechanism of infection and immunity has developed a theory, wonderful for its ingenuity and for its ability to account for all the facts so far discovered in regard to this subject. He conceives that the body cell is composed around a stable group of atoms which he calls the nucleus. This group is comparable to the benzine ring familiar to the organic chemist. (Chart 1). Food products consisting of various



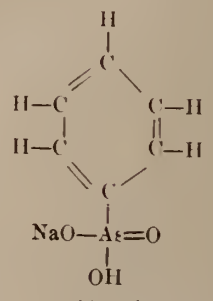
Benzine

molocules of fat, proteid and carbohydrate material, in order to nourish the cell, he says, must enter into actual chemical relation with the cell and become for a time, a part of it. Still using the analogy of the benzine nucleus, he says this is accomplished by side chains or affinities, thus as in the atom benzine, the hydrogen may give place to other groups, satisfying same affinities, forming for example benzoic acid (see chart); atoxyl and the now famous 606 (arseno-benzol).

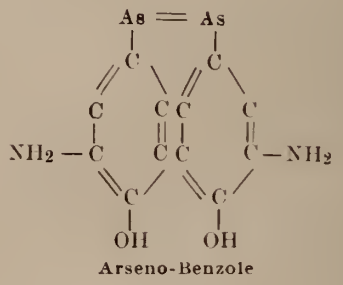
So the body cell may grasp proteid, carbohydrate and fat molecules as the case may be. He further conceives that bacterial toxins or the bacteria itself may contain groups which are capable



Benzoic Acid



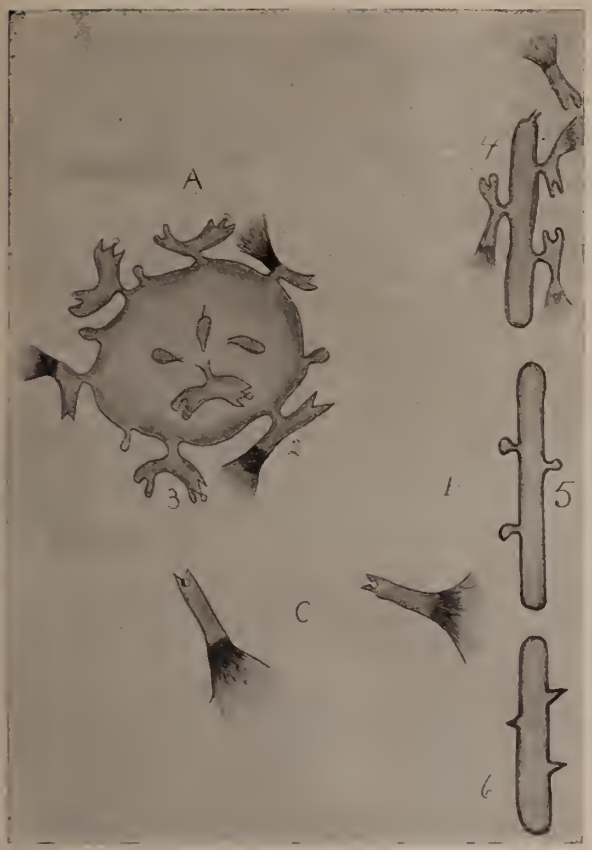
Atoxyl



Arseno-Benzole

of satisfying these affinities intended as food arms and may thus become attached to the body cell. When once so attached, they not only injure the cell by action of a poison or ferment group associated with them but they tie up and put out of commission, certain of these side chains intended for the nutrition of the cell. An injured cell tends to repair and following the law laid down by Weigert, not only repairs the actual injury, but goes farther. This law of Weigert is familiarly illustrated in the callus forming around a bony fracture. In the case of the cell, this hypercompensation results not merely in the formation of side chains sufficient to take the place of those rendered useless by the toxin but a much larger number than the cell formerly carried. Some of these become loosened from the cell and float free in the serum as groups of atoms having an affinity for the toxin. These unite with the toxin and satisfy its affinity, thus rendering it powerless to do further harm. A serum containing these groups is antitoxin.

PLATE I.



A Body cell with receptors of 1st, 2nd, and 3rd order.
1. Receptor of 1st order—when free forms antitoxin.
2. Receptor of 2nd order—when free forms precipitins, agglutins, opsonins, etc.
3. Receptor of 3rd order—when free unite complement to bacteria, forming bacteriolytic system.

B Bacteria with receptor groups—
4. Toxin producing bacteria—attacks cell by combination of its cast off receptors, i. e., toxin, with cell receptors of 1st order.
5. Bacterium with intra-cellular toxin—attacks cell by attaching itself to cell receptors of 3rd order.
6. Bacterium with intra-cellular toxins—attacks cell by attaching itself to cell receptors of 2nd order.

C Free complement in serum.

Bacteriolysins require for their explanation a somewhat more complicated assumption because it is easily proven that they are not simple bodies but are composed of two elements, one of which is present in normal unimmunized serum while the other is only produced as a result of stimulation with the foreign cells.

PLATE II.



A Body cell with receptors of 1st, 2nd, and 3rd orders.
1. Cell receptors of 1st order.
2. Cast off cell receptor of 2nd order.

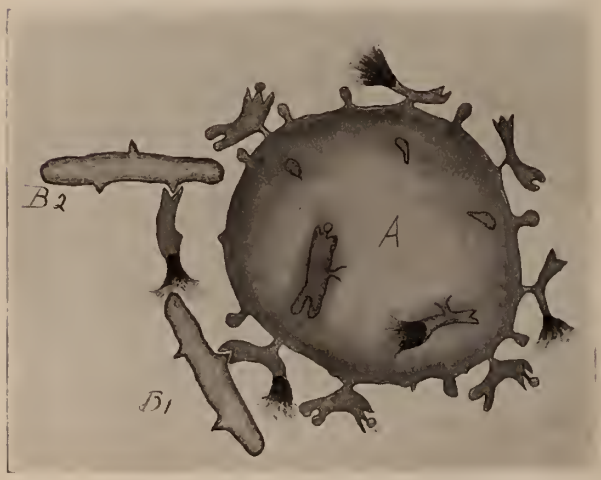
B Toxin producing bacteria.
3. Toxin.
4. Toxin attacking cell by combining with cell receptor of 1st order.
5. Toxin neutralized by antitoxin.

This is proven by the fact that an immunized serum which will dissolve the bacteria of infection loses its power by heating to 55 degress Centigrade but regains it again on the addition of a little fresh unimmunized serum. Ehrlich's explanation of this is that there are present in the body fluid certain ferments which are capable of uniting when called upon with certain atom groups of the side chains of the body cell to effect the digestion of certain giant molecules that other atom groups of this same side chain have grasped. The ferment acting through the side chains dissolves the food molecule and renders it available for cell use. Bacteria may have groups which unite with

those side chains in the place intended for the food, tying up again, numbers of these side chains and thus giving rise to a superabundant new production with liberation into the serum. This is the immune body and by its action, the thermolabile ferment unites with the bacteria and produces solution, in the same way that the hand may turn the lock by the use of the key.

Therapeutic Application of Passive Immunity. The practical application of passive immunity by the use of antitoxic sera as illustrated in the treatment of early tetanus, diphtheria and epidemic cerebro-spinal-meningitis, is so well

PLATE III.



A Body cell with receptors of 1st, 2nd, and 3rd orders.
1. Cast off cell receptors of 3rd order (amboceptors).
B1 Bacterium attacking cell by uniting with receptors of 3rd order.
B2 Bacterium united with amboceptors.
B3 Bacteria amboceptor and complement, i. e., bacteriolytic system.

known that we may pass over it hastily. Suffice it to say that the death rate of diphtheria has been reduced conservatively fifty per cent; that tetanus is preventable in all cases treated early enough; and that the mortality of cerebro-spinal-meningitis has been greatly reduced. Its chief value lies in the treatment of those diseases produced by bacteria of soluble toxin production.

The Therapeutic Application of Active Immunity. The vaccine treatment as introduced by Wright has now been fairly well tried out and while reports are in some ways contradictory, certain things have been clearly demonstrated. As a *prophylactic* measure it has been shown that the incidence of cholera can be reduced to one-tenth by vaccination; that the mortality from plague is ten times greater among the non-inoculated than among those who have received prophylactic inoculation. That the incidence of typhoid has been reduced from 38.8 to 3.7 per one thousand. That the mortality but not the incidence of bacillary dysentery is greatly reduced among the inoculated. That secondary infections after operations can be lessened.

PLATE IV.



A Body cells with receptors of 1st, 2nd and 3rd order.
B1 Bacterium attacking cell by uniting with receptors of 2nd order.
B2 Bacteria united with cast off cell receptors of 2nd order. (Precipitin, agglutinin or opsonin).

In the *curative* treatment by this method in the first place, it must be borne in mind that vaccine treatment depends upon the production of an active immunity against diseases by the introduction of the bodies of the bacteria rendered harmless by the application of heat and chemical agents. It should become evident at once that there is *no rational basis for its use in infections in which the infecting agents are cir-*

culating in great numbers in the blood and lymph stream. Here we have the stimulation already taking place naturally and the few bacteria we add to these already present cannot be expected to give material aid and if the body is overwhelmed with infection so that the reactions are paralyzed the additional dose may be the straw that breaks the camel's back. Thus we can exclude generalized septicemic infections. Its use should be restricted to those infections, chronic or sub-acute in character in which the focus is localized, well walled off and in which the products of infection are prevented from absorption. Such cases should theoretically be benefited by the treatment, as the bacteria and bacterial products by their absence from the general circulation fail to stimulate the general reactive processes and are attacked only by those opsonins and bacteriolytic substances produced by the cells in the immediate vicinity. In local pyogenic infections, we find a type of cases which should theoretically respond to active immunization by bacterial vaccine and it is in the treatment of this class of conditions that the most brilliant results have actually been obtained. The staphylococcus infections are most likely to become localized. The results in cases of recurrent (staphylococcus) furunculosis, have been almost universally good. A single dose of vaccine is usually followed by improvement. The pain of a fully developed boil is less, suppuration takes place quicker, lesions just started usually subside without coming to a head, and recurrence is generally prevented. This immunity lasts for a year or longer. In infantile, generalized furunculosis and in carbuncle, as good results are obtained.

In pustular acne, the results are more uncertain. A good proportion of the cases are benefited, but the improvement is slower in appearing. The indurated and seborreic types are less amenable to treatment than the pustular. The reason for the failure in many of these cases, is probably that the staphylococcus is only a secondary invader, the acne bacillus being the real causative agent. Flemming reports good results from the use of acne bacillus vaccine. Staphylococcus infections of the middle ear and suppurating sinuses all over the body have been successfully treated with staphylococcus vaccine.

The dosage and interval are determined by Wright by obtaining the opsonic index. While this method is unquestionably of value in the hands of the expert, and has been the means in the hands of Wright and his pupils of developing most of our knowledge on the subject, it is altogether too complicated for use by any other than the experts. The ordinary user of vaccine must depend upon the average proper interval and dosage worked out by the researches of others, together with the clinical symptoms. The best results are obtained in these cases of staphylococcus infection by the use of autogenous vaccine with an average dosage of five hundred millions. The immediate result of the introduction of a large dose is a period of depression described as the negative phase, caused by the solvent effect of the bacteriolysin, resulting from the stimulus injected. This usually appears in comparatively short time from an hour to three or four and is followed by a positive phase when the body has produced antitoxic substances to take care of the poisons liberated and an increased amount of opsonins. This more powerful bacteriolytic and opsonic fluid bathing the bacteria at the local focus, renders them more susceptible to the leucocytes and throws the balance in favor of the resisting cells, thus overcoming the comparative equilibrium. The points to be observed in treatment are first to start with a dose just large enough to give a slight reaction. A severe one is to be avoided, and second, to wait until this has been entirely recovered from before giving the next dose. In staphylococcus infection, the interval should be at least five days and one may safely wait a week or ten days. Other doses should if needed, be given at like intervals. The size of the dose for this class of cases should seldom go above one hundred millions.

Localized streptococcus infection can be advantageously treated by this method. The dosage is smaller than that used in the staphylococcus infection. From ten to twenty millions are usually given at intervals of from twenty-four to forty-eight hours.

In the diffuse infections characterized by septicemia, pyemia, and Graves' sapremia, the treatment is contraindicated for reasons previously given. The only immunizing treatment which can be applied in these cases with any hope of success, is the injection of bacteriolysins and opsonins ready made in streptolytic serum.

The writer's personal experience has been limited to the class of cases just cited but plenty of clinical evidence has been published to show that colon bacilluria is amenable to such treatment and that that class of cases of renal tuberculosis associated with colon infection is greatly benefited. Renal tuberculosis is, of course, usually a surgical condition, but in cases where operation is for some cause contraindicated, the vaccines are said to greatly relieve the distressing symptoms.

Gonorrheal arthritis oftentimes yields readily to stock vaccines and Sherman reports many favorable results in acute and chronic rheumatism, using streptococcus vaccine. The same author reports favorable results in certain cases of subacute rheumatism with a dosage of thirty millions streptococci, given once a week, and in arthritis deformans, with alternating doses of one hundred millions staphylococci and thirty millions streptococci, given at seven day intervals over a long period.

Localized tubercular lesions have been successfully treated with doses of tuberculin Tr. varying from one ten-thousandth to one five-hundredth milligram. With regard to the tuberculin treatment of pulmonary tuberculosis, observers are at variance. Lowenstein reports favorably his experience with tuberculin treatment with three hundred cases of open pulmonary tuberculosis. Burroughs says "In my opinion, tuberculin is of no value except for diagnostic purposes." Bullock says "I have employed tuberculin extensively but can not find its place, if it has any in the treatment of tuberculosis." Trudeau says "from eighteen to twenty-five per cent more of the treated than the untreated cases discharged from the sanatorium during the past fifteen years were living at the time we made inquiry. Theodore Potter says "After fifteen years in the use of tuberculin, to some moderate extent, all the way along, and more actively lately, I confess I do not know whether it is of much use or not."

Wilcox, Morgan, and Leary, report good results with a polyvalent pneumococcus vaccine in certain cases of pneumonia. I myself have seen one case of pneumonia which apparently responded beautifully to Leary's vaccine.

Recently Bruce has reported the use of polyvalent streptococcus vaccines to stimulate nutrition in cases of malnutrition of mania with apparent success. This with no idea that the streptococcus has any etiological relationship to the mental condition, but with the idea that a stimulation of cell receptors might increase the cell's ability to assimilate certain food molecules.

Finally we must conclude that bacterial vaccines are not cure-alls. They are powerful agents for good or harm, but should always be used carefully and with due consideration for the sort of infection you are treating and the principles involved in the treatment. Much harm has been done by a too indiscriminate use of these powerful products and many times where actual harm has not been done, good results have not been obtained through faulty application or bad methods, and a good therapeutic measure has thereby been in danger of falling into some disrepute. There is always a tendency towards too great and oftentimes misguided enthusiasm with any new remedial agent. The method should never be used to the exclusion of known medical and surgical procedure. Local accumulations of pus should be evacuated. Hyperemia should be encouraged as an adjuvant.

The treatment is yet young and our knowledge is limited and our methods still crude, but no one who has studied the principles involved, and watched the application, can doubt that in this new therapy, we have a wonderful addition to our prophylactic and curative armamentarium.

An International Hospital is now open in Adana, Turkey—the only one (except a hospital for Turkish soldiers) in a district having a population of 70,000. There are provided private wards and special care for Americans and other foreigners. There are often cases of serious illness among tourists and foreign workmen sent to set up new machinery; and for these cases the only accommodations have been the private homes of missionaries. The nurses are mainly English. The American Board, which has been at work in Turkey for fifty years past, will provide the outfit and traveling expenses for the right man to head this important work; an American woman has arranged to pay one-quarter of his salary for two years.

Medical Queries.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D.,
B. H. STONE, M. D., } .....*Editors.*

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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

BURLINGTON, VT., MARCH 15, 1911.

EDITORIAL.

It is with great sorrow that we are called upon to chronicle with this issue, the death of Dr. A. O. J. Kelly of Philadelphia. Dr. Kelly's remarkable record of professional attainment is familiar to the medical world. Rare indeed is it to find a man at his age looked upon as the Nestor of medicine and yet this title may be truly applied in his case. His crowning work, the text-book of practice just issued, will make his name familiar to a host of coming medical students as well as to those already in the colleges. But to those of us who were so fortunate as to know the man personally, there comes a grief much keener and a sense of loss more irreparable than that of a great physician and teacher gone. He had, beside and above these endowments, qualities which endeared him to all his associates. His lack of self-appreciation which his attainments might well have justified; his extreme approachability; his readiness to give advice and aid in an entirely unassuming and kindly way and withal his firmness and honesty in standing by what he believed to be true, created for him in the minds of those who came into personal contact with him, a fondness and respect which no degree of professional attainment alone could have produced.

The annual meeting of the State Medical Examining and Licensing Boards of the United States was held in Chicago in conjunction with the annual meeting of the Council of Medical Education of the American Medical Association.

State Boards of Medical Registration occupy a position in which they exert a decided influence in determining standards of medical education at large, and especially in their own state. The general condition of medical education and state requirement for license to practice in the United States is in a most illogical condition. The standard of medical education maintained by the various medical schools is so diverse and so unsatisfactory in some schools that a medical diploma is not recognized as evidence of a satisfactory medical education. It does not matter how high a standard of education is maintained by any school its diploma is not recognized and all medical graduates must be examined by a state board before they can receive a license to practice.

In England the standard of education maintained by the medical schools is such that a medical diploma carries with it the right to practice. This condition is not possible in this country under the present conditions of medical education. The remedy for this most unsatisfactory condition of medical education is little better than the condition itself.

State boards are political creations and consequently are the result of political influence, they are composed very largely of men who have had no special training for the position either as teachers in medical schools or in post-graduate work. In other words they would not be con-

sidered qualified to teach the subjects on which they conduct examinations to determine the fitness of applicants to practice medicine.

The boards of different states have no common standard of requirement or any scheme whereby they may adopt a uniform standard of rating examination papers. As a result the conditions and standards in each state are largely due to the sentiment and caprice of the board.

This is well illustrated by the following actual test. An examination paper that was written by an applicant for license before the Massachusetts State Board was sent to ten state boards in New England and the middle west with the request that they rate the paper according to their standard. The following is the lowest and highest mark on each question.

Question	1	ranged	from	30	to	80
"	2	"	"	30	"	100
"	3	"	"	40	"	100
"	4	"	"	20	"	90
"	5	"	"	50	"	90
"	6	"	"	30	"	90
"	7	"	"	50	"	100
"	8	"	"	25	"	90
"	9	"	"	0	"	80
"	10	"	"	10	"	85

This is all wrong. If it is impossible to regulate the standards of education in the medical schools so that a diploma may also give a license to practice as in England, there should be a National Examining Board and a license obtained from this board should entitle the holder to practice in any state in the union.

The Canadian Parliament has just passed a bill creating such a board for Canada, and it is highly probable that this action will be ratified by the different provinces. We may well copy the advanced position taken by our Canadian friends in regard to medical licensure.

The Legislature of 1910 enacted rather less legislation of medical interest than usual but that which they did pass is important.

Two acts, No. 220 and 218, add to the power of the State Board of Health. No. 220 is similar to an enactment passed in a large number of states aiming at the prevention of blindness by gonorrheal ophthalmia. Laws of this kind have been in operation in Massachusetts and Rhode Island and several other states for a considerable time and while we do not think that the need of stringent rules under the powers of this act are as necessary in Vermont as in other states with larger municipal population, the statute itself is a good one to have on the books.

Two commissions with medical members were established; one a board of examiners of embalmers, composed of one regular practicing physician and two practicing embalmers; and a board of registration of nurses. The act creating this commission, No. 219, printed in full in the subsequent pages, we consider of much importance. With the increased demand for nurses and the multiplication of training schools, the time has come when some regulative legislation is needed. The trained nurse is second to not even the physician, in importance in the care of the sick, as upon her constant care and watchfulness, depend to a large measure, not only the comfort, but the safety of the patient, and the public should be assured of the competency of those whom they pay to take this care of them. The bill, wisely, we think, requires that two members of the examining board should be physicians for it must never be forgotten that the nurse is under the doctor's orders and any condition which tends to impress this class with independence of the physician's wishes, is dangerous.

PUBLIC ACTS OF MEDICAL INTEREST PASSED BY THE GENERAL ASSEMBLY OF THE STATE OF VERMONT AT THE TWENTY-FIRST BIENNIAL SESSION, 1910.

NUMBER 219.

AN ACT TO PROVIDE FOR THE REGISTRATION OF NURSES.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. A board of registration of nurses is hereby established to consist of three members, to be appointed by the governor within thirty days after the passage of this act. Two members of said board shall be physicians in active practice on the attending staff of any hospital of the state having a training school for nurses. The third member shall be a graduate nurse holding a diploma from a hospital training school for nurses, giving at least a two years' course in the theory and practice of nursing. He or she shall have had three years' experience in nursing the sick. The members of said board shall be appointed as follows: one for two years, one for four years and one for six years from the first day of March 1911, and until their respective successors are appointed; and thereafter the governor shall biennially, before the first day of March, appoint one person qualified as aforesaid, to hold office for six years from the first day of March next ensuing. Vacancies in said board shall be filled for the unexpired term in the manner of the original appointment. Any member of said board may be removed for cause by the governor.

SEC. 2. The members of said board shall meet the second Tuesday in March, and annually thereafter, and proceed to organize by choosing a president, secretary and treasurer who shall hold office for one year, or until their successors are elected. They shall adopt a seal and such by-laws and regulations as are needed for the transacting of business, but said board shall not in any way control the prices or compensation paid to nurses. The said board shall hold two meetings regularly each year the time and place to be fixed by the board, and they may hold additional meetings at such times and places as may be deemed necessary.

SEC. 3. It shall be the duty of said board immediately upon its organization, to notify all persons engaged in the practice of nursing the sick in the state, of the times and places of the examinations for registration, by publishing in one or more newspapers in the state, and by a written notice to the superintendents of all training schools and nurses' registry bureaus in the state.

Application for registration shall be made upon blanks to be furnished by the board and shall be signed and sworn to by the applicant. Any person, a resident of this state, who shall furnish satisfactory evidence that he or she is at least twenty-one years of age, of good moral character and who holds a diploma from a training school for nurses connected with some hospital requiring at least a two years' course, shall upon payment of a fee of five dollars, be examined by said board and if found to be qualified shall be registered with the right to use the title of *registered nurse*, and shall receive a certificate thereof from the board signed and sealed by the president and secretary. Within sixty days from date of issue this certificate must be recorded in the office of the secretary of state with an affidavit of identity and residence of the person to whom granted.

An applicant who fails to pass an examination satisfactory to the board, and is therefore refused registration, shall be entitled within one year after such refusal, to a re-examination at a meeting of the board called for the examination of applicants, without payment of additional fee. The said board may after a hearing, by a vote of a majority of its members, annul the registration and cancel the certificate of any nurse, and may annul the registration and cancel the certificate of any nurse without hearing, if such nurse has been found guilty of a crime or misdemeanor. All fees received by the board shall be paid annually into the state treasury.

SEC. 4. Examinations shall be partly in writing in the English language, and partly in practical work, and shall include the principles of nursing. Due credit shall be given for examinations in special branches.

SEC. 5. The board shall have power to register in like manner without examination, upon payment of the usual fee, any person who has been registered as a professional nurse in another state under laws which in the opinion of the board maintain a standard substantially similar to that of this act, and which extends a similar courtesy to nurses registered in this state. Graduate nurses, residents of this state, who hold diplomas from an accredited nurses' training school, bearing date not later than January 1st, 1911, may become registered as herein provided without examination upon payment of the usual fee.

SEC. 6. Each member of the board shall receive four dollars for every day actually spent in the performance of his or her duties: provided however, that in no event shall the total sum paid to any one member exceed one hundred dollars in any one year, and the necessary travelling expenses actually incurred in attending meetings of the board, not exceeding three cents per mile each way. The said compensation and travelling expenses together with any incidental expenses necessarily incurred by the board or any member thereof, shall, if approved by the board be paid from the treasury of the state, but only from the fees paid into the said treasury by the board.

SEC. 7. The board shall keep a record of all names of persons registered hereunder, and of all money received and disbursed by it, and a duplicate thereof shall be open to inspection in the office of the secretary of state. Said board shall annually, on or before the first day of January, make a report to the governor of the condition of professional nursing in the state, of all its official acts during the preceding year and of its receipts and disbursements.

SEC. 8. Whoever, not being authorized to practice as a registered nurse within this state, practices or attempts to practice as a registered nurse, or uses the abbreviation R. N., or any other words or letters or figures to indicate that the person using the same is a registered nurse, shall for each offense be punished by a fine of not more than one hundred dollars. Whoever becomes registered or attempts to become registered or whoever practices or attempts to practice as a registered nurse under a false or assumed name shall for each offense be punished by a fine of not less than one hundred dollars, nor more than five hundred dollars, or by imprisonment for three months, or by both fine and imprisonment.

SEC. 9. The board shall investigate all complaints of violations of the provisions of this act, and report the same to the proper prosecuting officer.

SEC. 10. This act shall not apply to gratuitous nursing of the sick by friends or members of the family, or to the acts of any person nursing the sick for hire who does not assume to be a registered nurse.

SEC. 11. The board may make such rules and regulations with reference to procedure hereunder as it may deem expedient, provided that the same are not inconsistent with this act or with any other law of the state.

SEC. 12. For the purpose of the appointment of said board and of registration of persons by it hereunder this act shall take effect upon its passage.

Approved January 28, 1911.

NUMBER 220.

AN ACT FOR THE PREVENTION OF BLINDNESS.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. The state board of health are hereby empowered to make such rules and regulations as they may deem necessary for the prevention of blindness caused by the disease known as ophthalmia neonatorum, and they may furnish at public expense such prophylactic outfits as are necessary for the use of physicians.

SEC. 2. Any physician who fails to comply with the regulations established under sec. 1 of this act shall be fined ten dollars for each offense, and it shall be the duty of the state's attorney to prosecute in all cases on complaint of a local board of health.

SEC. 3. This act shall take effect from its passage.

Approved November 11, 1910.

NUMBER 216.

AN ACT TO ESTABLISH A STATE BOARD OF EXAMINERS OF EMBALMERS, AND TO REPEAL SECTIONS 5428, 5429, 5430, 5431 AND 5432 OF THE PUBLIC STATUTES, RELATING TO THE PRACTICE OF EMBALMING.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. A board of examiners of embalmers is hereby constituted to consist of three persons, who shall be appointed by the governor, each to serve six years from the date when his appointment takes effect, except that the governor in appointing the first board of examiners, shall designate one member to serve for two, one for four and one for six years. The governor may remove from office any member of said board for neglect of any of the duties imposed upon him by this act, or for incompetency or improper conduct. One member of said board shall be a regular practicing physician in this state, and the other two members shall have had at least five years' experience as practical embalmers. Each member of said board shall be sworn before entering upon his duties.

SEC. 2. Said board shall organize by electing one of its members president, and one as secretary and treasurer, and it shall adopt such rules and regulations for the transaction of its business as it may deem expedient.

SEC. 3. Said board shall conduct at least one examination each year if there are candidates for examination. The examining board shall hold meetings as frequently as the efficient discharge of its duties shall require. The rules of the board shall fix the time and place of its meetings and notifications of its members, and also the time of holding its examinations, giving reasonable notice to all persons applying for license. A majority of the members of the board present shall constitute a quorum for the transaction of business.

SEC. 4. A person engaged in the business of embalming, unless he holds a license under the provisions of sections 5428 and 5429 of the Public Statutes, or unless he was a registered embalmer prior to January 1, 1903, and each person who desires hereafter to engage in the business of embalming, shall make application to said board for a license to engage therein and shall cause his name, residence and place of business to be registered with said board, whose secretary shall keep a book for the purpose, and enter such registration therein upon the payment of ten dollars, which shall be known as the registration fee.

SEC. 5. An application for a license shall contain the name, residence and proposed place of business of the applicant, shall state the times and places where he has been engaged or employed as an embalmer, or as an assistant, and shall be accompanied by a certificate of two reputable embalmers that the applicant is more than twenty-one years of age, is of good moral character, and that, unless actually engaged in the business as registered embalmer, he has served for at least two years prior to the date of his application. The provisions of this act shall not be construed so as to prevent the employment by a registered embalmer of unlicensed persons as assistants in his presence and under his direction and control, except in cases of infectious and contagious diseases, which cases shall be cared for only by a licensed and registered undertaker and embalmer or under the immediate personal direction of the health officer.

SEC. 6. Before a person hereafter engages in the business of embalming unless he is a licensed or registered embalmer, as specified in section 4 of this act, he shall apply to said board of examiners for a license to practice embalming, and such applicant shall appear before said board at a time and place to be fixed by the board for examination. Examinations shall be in writing and upon blanks which shall be prepared by the board, containing such questions relating to the subject of embalming and undertaking, sanitation, preservation of bodies of deceased persons, disinfecting the premises, clothing and bedding, and requirements in case of infectious and contagious diseases, as said board deems necessary to determine the qualifications of the applicant. Said board may also conduct such oral examinations of the applicant as it deems necessary. If, upon due examination, it is found that the applicant is of good moral character and possessed of sufficient skill and knowledge of the business, the board shall issue to such applicant, upon the payment of a fee of ten dollars, a license to practice embalming in the state, and shall register such applicant as a duly licensed embalmer. Said board may at any time, for proper cause, revoke a license heretofore or hereafter granted, after notice to and hearing of the parties interested. All moneys received by the board for licenses shall forthwith be paid to the state treasurer.

SEC. 7. No person shall embalm and introduce any fluid into a body of a person who has died under suspicious circumstances, or, where a criminal cause of

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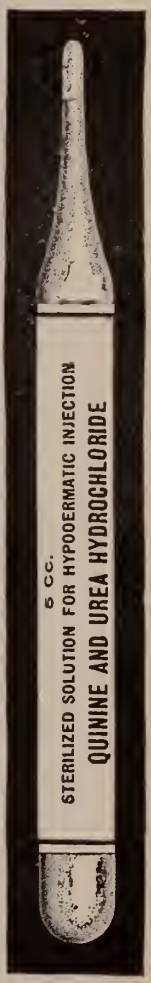
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Sodium Cacodylate, administered hypodermatically, has given remarkably good results in **SYPHILIS** (see Dr. John B. Murphy's report in the *Journal of the American Medical Association*, September 24, 1910). It has been successfully employed in the treatment of both simple and pernicious anemia. It is highly recommended in the malarial cachexia, neurasthenia, and certain diseases of the skin, as psoriasis. Its uses, in short, are practically the same as those of arsenic.

It is important that a pure preparation of Sodium Cacodylate be selected for hypodermatic use, as solutions containing free arsenous acid are likely to cause poisonous effects. Our **STERILIZED SOLUTION CACODYLATE OF SODIUM** is warranted to be pure. We urge its specification.

Supplied in 1 Cc. hermetically sealed glass ampoules, each containing ¾ grain of the arsenic salt; also (when specified) 1 Cc. ampoules of 3 grains each.



Quinine and Urea Hydrochloride

IN STERILE SOLUTION—FOR HYPODERMATIC ADMINISTRATION.

As a **LOCAL ANESTHETIC** this preparation has been used in a great variety of operative procedures, some of considerable extent, with almost perfect satisfaction. In many ways it is superior to cocaine, especially in that it is not toxic in large doses.

Anesthesia follows the injection of Quinine and Urea Hydrochloride more slowly than after the use of cocaine. From five to thirty minutes may elapse before the operation may be undertaken painlessly. If sufficient time be given for the anesthetic effect fully to manifest itself, the parts will become thoroughly insensitive and the patient will experience no pain.

Anesthesia produced with Quinine and Urea Hydrochloride is more lasting than with cocaine. In some cases it persists for hours, occasionally for days, an advantageous feature in connection with rectal operations.

Supplied in 1-per-cent. solution in hermetically sealed glass ampoules of 5 Cc. (80 minims).

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death is suspected, until after a legal investigation has determined the facts; but it shall be the duty of an embalmer and undertaker forthwith to report any such case to the local health officer and obtain permission to embalm the body.

SEC. 8. No person shall practice or hold himself out to the public as a practicing embalmer without having complied with the provisions of this act.

SEC. 9. A person who violates a provision of the two preceding sections shall be fined not more than one hundred dollars, nor less than fifty dollars. Justices of the peace and municipal and city courts shall have concurrent jurisdiction with the county court of such offenses.

SEC. 10. Said board shall keep a record of licenses granted and applications made for license, which shall be open to public inspection at all reasonable times. Records of licenses and registered embalmers held by the state board of health shall be returned to said examiners for registration. Copies of such record, certified by the secretary of the board, shall be evidence in any court in this state.

SEC. 11. Each member of said board shall receive four dollars per day for time actually spent in the transaction of the business required of him by this act, the total number of days of such service in any one year not to exceed ten, together with actual traveling and necessary expenses not exceeding forty dollars each in any year. Books, blanks, necessary printing, postage and like necessaries incident to the work of the board, shall be paid for by the state.

SEC. 12. Sections 5428, 5429, 5430, 5431 and 5432 of the Public Statutes are hereby repealed, except as to violations of the provisions thereof committed prior to February 1, 1911; as to such violations, the same shall be and remain in full force.

Approved January 14, 1911.

NUMBER 73.

AN ACT TO PROVIDE FOR THE MEDICAL INSPECTION OF PUBLIC AND PRIVATE SCHOOLS.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. The school directors of any town or city, or the school committee of any incorporated district, may appoint one or more medical inspectors for their schools, provided the legal voters of such town, city, or incorporated district at their annual school meeting by vote instruct said directors or committee so to do. The compensation of such inspectors shall be fixed by the school directors or prudential committee.

SEC. 2. Such medical inspectors shall examine the pupils of said schools, and in all things comply with such rules and regulations as may be promulgated by the state board of health relating thereto.

SEC. 3. Said inspectors shall, under the same regulations, examine the pupils of any private school when requested so to do by the principal thereof, or whenever any communicable disease is present in any town or city in which such private school may be located, or when the pupils thereof may have been exposed to any communicable disease.

SEC. 4. This act shall take effect September 1, 1911.

Approved November 11, 1910.

NUMBER 217.

AN ACT TO AMEND SECTIONS 5436, 5440, 5442 AND 5455 OF THE PUBLIC STATUTES, RELATING TO THE PRESERVATION OF THE PUBLIC HEALTH.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 5436 of the Public Statutes is hereby amended so as to read as follows:

SEC. 5436. *General duties.* Said health officer shall make sanitary inspections whenever and wherever he has reason to suspect that anything exists which may be detrimental to the public health. He may enter any house or other building or place for the purpose of making such inspections. He shall, in writing, order the destruction and removal within a specified time of nuisances, sources of filth or causes of sickness, as directed by the rules and regulations of the state board of health; and may, under the orders of the state board of health, order churches and schools to be closed in times of epidemic or in the face of serious sickness, which, in his judgment, may require the same; and may forbid and prevent the assembling of people in any place when the public health and safety demand.

SEC. 2. Section 5440 of the Public Statutes is hereby amended so as to read as follows:

SEC. 5440. *Isolation of persons infected with or exposed to contagious diseases; medical treatment and care.* The local officer may require, under the rules and regulations of the state board of health, the isolation of persons and things infected with or exposed to contagious or infectious diseases, and may with the approval of the local board of health provide suitable places for the reception of the same, and if necessary, furnish medical treatment and care for such sick persons at their expense if of sufficient ability to pay, otherwise at the expense of the town or city. Said health officer may prohibit and prevent intercourse and communication with, or use of infected premises, places or things; and require, and if necessary, provide means, at the expense of the town or city for which he acts, for the thorough purification, disinfection and cleansing of the said infected places or things, before free intercourse therewith or use thereof shall be allowed.

SEC. 3. Section 5442 of the Public Statutes is hereby amended so as to read as follows:

SEC. 5442. *Assistance by constables, etc.; penalty for neglect to render.* Said local board or health officer may call upon sheriffs, constables, and police officers to assist them in the discharge of their respective duties. An officer who neglects or refuses to render such assistance shall be fined not more than two hundred dollars and costs of prosecution.

SEC. 4. Section 5455 of the Public Statutes is hereby amended so as to read as follows:

SEC. 5455. *Same; duties of health officers.* A health officer shall, upon receiving notice of a case of infectious or contagious disease dangerous to the public health, investigate and ascertain if possible the source or cause of the disease; institute means of prevention or restriction and immediately report the facts to the secretary of the state board of health. When a communicable disease prevails or becomes epidemic, said health officer shall make weekly reports concerning such disease or diseases to the secretary of the state board of health;

and shall annually, in the month of January, report to said secretary the sanitary condition and the public health in detail of his town or city.

SEC. 5. Said health officer shall not order the abatement of nuisances or the destruction of things infected with or exposed to contagious disease and shall not incur expense to the town or city in the furnishing of medical treatment and care for sick persons except with the consent and approval of the selectmen of such town or the aldermen of such city; but nothing in this section shall be construed to prevent the health officer from instituting quarantine and maintaining the same in any case of contagious or infectious disease.

SEC. 6. This act shall take effect from its passage.

Approved November 8, 1910.

NUMBER 218.

AN ACT RELATING TO THE ESTABLISHMENT AND MAINTENANCE OF SANATORIA FOR THE TREATMENT OF TUBERCULOSIS.

It is hereby enacted by the General Assembly of the State of Vermont:

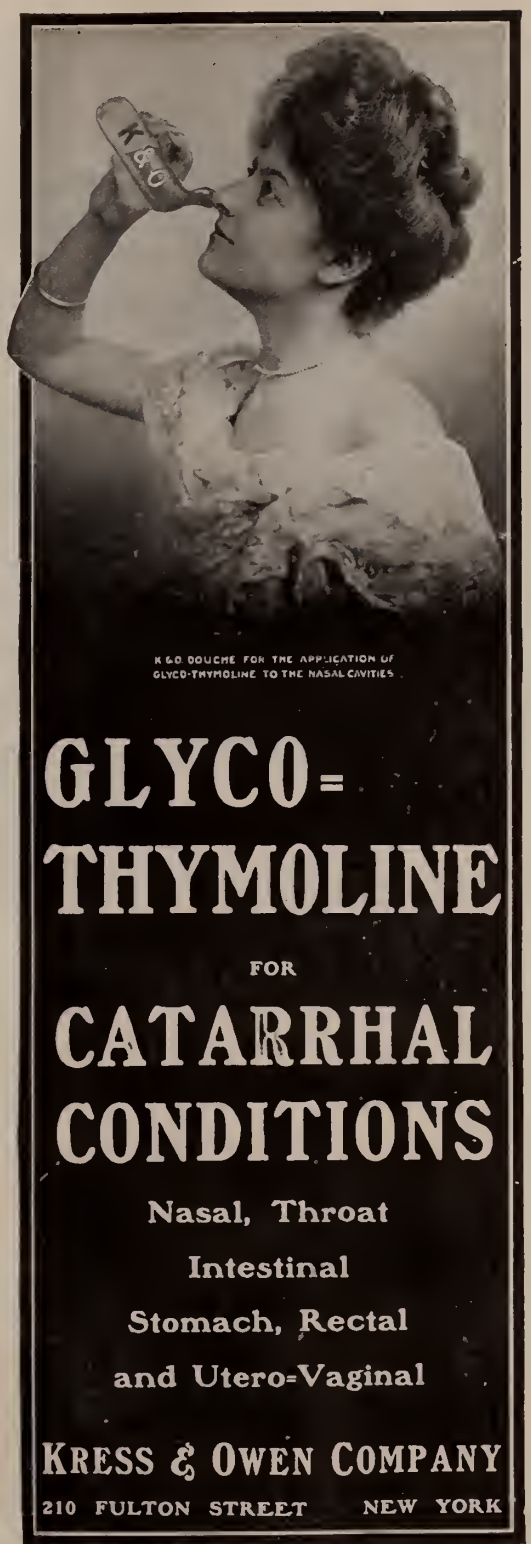
SECTION 1. Any person, association, corporation, municipality or county desiring to establish or maintain in this state a camp hospital sanatorium or other resort for the care or treatment of persons affected with tuberculosis, shall first obtain written permission from the state board of health.

SEC. 2. Whenever any person, corporation, association, municipality or county makes written application to the said state board of health for permission to establish or maintain a sanatorium or resort, as mentioned in the preceding section, said state board of health shall appoint a time and place, which in their judgment will be most convenient for all the parties concerned, and shall give a hearing to all parties interested. Notice of such hearing shall be given the applicants for permission to establish and maintain the sanatorium or resort mentioned and public notice shall be given to others by publication at least two consecutive weeks in a newspaper published in the county in which it is proposed or desired to establish or maintain the sanatorium or resort and by posting in three public places in the town, in which it is proposed to establish such sanatorium or resort, a notice of said hearing.

SEC. 3. The state board of health shall, at the time and place appointed for the hearing aforesaid, hear any and all persons interested in the application under consideration. If it appears to said board that the establishment or maintenance of the institution proposed, will be for the general welfare of the community, said state board of health may grant permission in writing to said applicants to establish or maintain the sanatorium or resort desired.

SEC. 4. No person, association, corporation, municipality or county shall establish or maintain within this state any camp hospital sanatorium or resort of any kind for the care or treatment of persons affected with tuberculosis or at any place in any part of any town other than the exact place specified by said board without first obtaining permission to do so from the state board of health in the manner prescribed by this act.

SEC. 5. Any person, association, corporation, municipality or county, which violates the provisions



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of this act, shall be fined not less than $50 or more than $500.

SEC. 6. The state's attorney, to whom the state board of health reports a violation of this chapter, shall commence proceedings and prosecute in the proper court without delay for the enforcement of the penalty herein provided.

SEC. 7. Nothing in this act shall be construed to affect the Vermont Sanatorium at Pittsford.

SEC. 8. The state board of health shall have power to revoke at any time any permission given in accordance with this act after due notice and a public hearing.

SEC. 9. This act shall take effect from its passage.

Approved January 21, 1911.

A DISCOURSE OF THE WHOLE ART OF SURGERY.

Continuing the quotation from "A Discourse of the Whole Art of Surgery," published in 1654 we find this paragraph which concludes a short chapter entitled "Of Natural Things in General."

"Then tell me how many natural things are reckoned by the surgeon?

"Seven; the first is called Elements. The second, is Temperament or Complexion. The third, Humors. The fourth, Members. The fifth, Virtues or Faculties. The sixth, the works and effects of virtues. The seventh, Spirits"

Following this there is a chapter on each of these seven subjects. From the chapter on "Elements" we quote the following:

"Then tell me what is an element?

"It is the most simple part whereof anything is made, and in the destruction thereof, is lastly resolved.

"How many elements are there?

"Two according to the contemplation of surgery, viz., simples or intelligibles, and composed or sensibles.

"Which are the intelligibles?

"Those which are known only by speculation and judgment, the which was first observed by Hippocrates.

"How many are they in number?

"They are four, according to Arith. to wit, the fire, the air, the water, and the earth, the

which have divers qualities, hot, cold, moist and dry."

Then follows a discourse on "Temperaments."

"What is temperament?

"It is a mixture of the four qualities of the elements, as saith *Avicen:* or, as saith *Galen*, it is a confusion or mixing of hot, cold, dry and moist.

"How many sorts of complexions are there?

"Two; to wit, well tempered and composed, or evil tempered.

"What is temperament well tempered?

"It is that which is equally composed of the four qualities of the elements, of the which composition and substance among all natural things, there is but one so tempered, which is the inner skin of the hand chiefly in the extremity of the fingers. * * * * * * * * * * * * *

"How many evil temperaments are there?

"There are divers, which indeed pass not the limits of health, for some surpass the temperate in one simple quality, some in two composed, and so forth.

"How many simple qualities are there?

"Four, as ye have heard, hot, dry, cold and humid: in like manner there are four composed, to wit, hot and dry, hot and humid; cold and dry, cold and humid, of the which *Galen* hath openly written.

"What parts of our bodies are attributed to these qualities?

"To the hot, we attribute parts most hot in our bodies, as the spirit, the heart, the blood, the liver, the kidneys, the flesh, the muscles, arteries, veins, skin, the spleen. To the cold we attribute the hair, bones, cartilage, ligaments, tendons, membranes, nerves, the brains and the fat grease, the flesh, the paps, the stones, lights, liver and marrow. To the dry, the hair, bones, cartilage, membranes, ligaments, tendons, arteries, veins, nerves, the skin. Nevertheless, some exceed others in these qualities, as you may perceive by their order; for it is necessary in healing wounds and ulcers, to know the temperature of every part, for other remedies are rather to be used in hard and dry parts, than in soft and humid parts.

"How are the four qualities compared to the four quarters of the year?



"The spring time is hot and humid, most healthful as saith *Hippocrates,* and continuing from the tenth of March, to the 11th of June. The Summer beginneth at the 11th of June, and endeth on the 13th day of September, and is hot and dry. The Autumn or harvest from the 13th day of September unto the 13th of December, and is cold and dry, very unhealthful, sickly, the which sicknesses if they continue until winter, are most dangerous. The Winter from the 13th day of December until the 10th day of March, is cold and humid: in this time of year, men eat much, engender abundance of crudities, of the which cometh divers sicknesses.

"How many ways know ye the temperature of man's body?

"Five, to wit, by the constitution of man's body; by the operations and functions: by the countries wherein man are born: by the color; and by the age which being all well considered, we may judge of every man's complexion."

DR. W. HAYES MITCHELL'S



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NEWS ITEMS.

Governor Mead has appointed as members of the Board of Registration of Nurses, Dr. C. A. Gale of Rutland for 6 years; Dr. D. C. Hawley of Burlington for 4 years; Miss M. Miller of St. Johnsbury for 2 years.

It is announced that Dr. Paul Carson, who since 1894, has been port physician in charge of the quarantine station in Boston harbor, has been appointed as chief of the newly established division of child hygiene and school medical inspection of the Boston Board of Health. It is stated that the number of school medical inspectors is to remain eighty, as at present, but that the salary of each of these physicians is to be increased to $500.

On February 13th, at Boston, the United States deputy marshal made a seizure of thirty barrels, containing a total of fifteen hundred gallons of tomato catsup, valued at three hundred dollars. This catsup which is part of a large consignment from a New York firm, is declared by government officials to be made of "canners' waste" and, therefore unfit for consumption under the provisions of the pure food law.

On February 13th Capt. Andrew Englund of Portland, Me., died in the Boston City Hospital of facial erysipelas, alleged to have developed at the site of several scratches accidentally received on January 15th from the hatpin of a passenger beside whom he was riding in a street car. Though it is perhaps unfair to attribute this death directly to the injuries by the hatpin, the episode calls attention to another of the dangerous possibilities of that implement, hitherto chiefly familiar to surgeons as a perforative weapon of defense.

CORINNA BORDEN KEEN RESEARCH FELLOWSHIP OF JEFFERSON MEDICAL COLLEGE.

The accumulated income of this fund now amounts to $1,000. The Fellowship will be awarded by the trustees upon recommendation of the faculty to a graduate of the Jefferson Medical College of not less than one, nor more than ten years standing, upon condition that he shall spend at least one year in Europe, America or elsewhere, wherever he can obtain the best facilities for research in the line of work which he shall select, after consultation with the faculty; and that he shall publish at least one paper embodying the results of his work as the "Corinna Borden Keen Research Fellow of the Jefferson Medical College." Address J. W. Holland, Dean.

The American Medical Association of Vienna made up of all foreign physicians doing post-graduate work in this city has opened a suite of rooms to be used as headquarters by the membership which usually numbers between one hundred and one hundred and fifty men and women. One room has been reserved as a reading room and library, the shelves of which we hope to see filled with works of American and English au-



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thors as well as the best medical journals in the English language.

Two new wards were opened recently at the State Hospital for Incipient Tuberculosis at Raybrook, N. Y., thus increasing the capacity of the institution from 164 patients to 230.

Health Commissioner Lederle of New York has announced that 160 persons have been arrested since January 1st in the crusade against the spitting nuisance. Of sixty persons arrested during the first week in February, forty were fined and in sixteen sentence was suspended. Only fourteen out of the 160 have been discharged outright.

The House of Representatives of New Hampshire has passed a bill providing for the registration of all cases of tuberculosis. The lower branch of the legislature concurring with the senate, January 25th, passed a bill giving the State Board of Health authority to restrict the use of drinking cups in public places.

Dr. John M. Gile, Hanover, has been elected a member of the governor's counsel.

A state laboratory is to be erected in Jacksonville, Florida, for the State Board of Health.

OBITUARY.

Dr. A. O. J. Kelly of Philadelphia died at his home in that city at four o'clock Wednesday morning, February 23, after a short illness with pneumonia. Dr. Kelly was born in Philadelphia June 18, 1870. He graduated from LaSalle College in Philadelphia in 1888 and from the medical department of the University of Pennsylvania in 1891. He also took his master's degree from LaSalle the same year. Following his graduation in medicine he spent two years abroad in post-graduate work spending most of his time in London, Dublin, and Vienna. Again in 1897 he spent six months in Vienna and several times since has spent shorter times abroad in post-graduate study. Since 1897 Dr. Kelly has been engaged in the general practice of medicine in Philadelphia, and in teaching medicine in the University of Pennsylvania, occupy-

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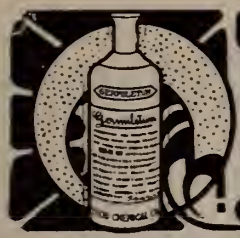
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ing the position of assistant professor. In 1901 he was elected professor of medicine in the University of Vermont to succeed the late Dr. A. P. Grinnell. Both of these positions he occupied at the time of his death. He was professor of pathology in the Women's Medical College of Pennsylvania and pathologist to the German Hospital of Philadelphia. He was also physician to St. Agnes Hospital and assistant physician to the University Hospital, both of Philadelphia. In addition to his practice and college and hospital work he was a prolific writer. He has written a one volume "Treatise on Medicine" and with Dr. Musser a three volume "Treatise on Treatment." He wrote the section on diseases of the liver and gall-bladder in Osler's "System of Medicine," and the chapter on pathology in Deaver's work on "Appendicitis." He also wrote numerous articles on various subjects of medicine for the current medical press. He was editor of the *"American Journal of the Medical Sciences"* and for a long time was editor of the *"International Clinics."* Dr. Kelly was a profound scholar and a clear logical thinker, a thoroughly progressive medical man but in no way a faddist. His writing as well as his teaching, was clear, concise and forceful; he was in every way a leader in the medical profession and his early death will be mourned by the medical profession at large. The loss to the University of Vermont cannot be estimated. He was a strong man not only in the teaching of his subject but in moulding the policy of the college as well; he was admired by his colleagues and loved by the students.

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Dr. Arthur Walter Blair, University of Vermont 1881, of Dorchester, Mass.; a member of the American Medical Association; surgeon-general for the Commercial Travelers' Eastern Association, and medical director of the Commercial Travelers' Boston Benefit Association; died suddenly in Duxbury, Mass., January 18th, from heart disease, aged 62.

Dr. Edwin Darius Hutchinson, University of Vermont, 1875; a member of the American Medical Association; a veteran of the Civil War; a member of the staff of the Noble Hospital, Westfield, Mass., since it opening, and later a member of the consulting staff; died at his home in Westfield, January 19th, from pneumonia, aged 70 years.

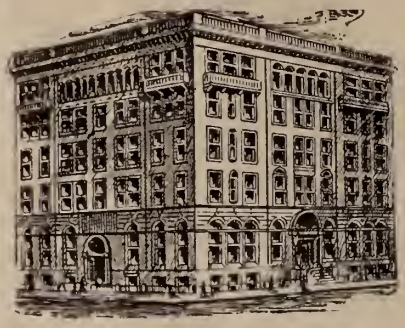
Dr. Maurice John Wiltse died March 2nd at his home, 110 College street, after a long illness with locomotor ataxia. Dr. Wiltse was born November 24, 1864, at Richfield Springs, N. Y. His parents were John and Ruth (Cushman) Wiltse. Dr. Wiltse was educated in the public schools of his native town and afterward fitted himself for college at a private preparatory school at Annandale-on-the-Hudson. In 1884 Dr. Wiltse went from Annandale to the Massachusetts College of Pharmacy and there was distinguished for scholarship. He graduated May 5, 1887. Dr. Wiltse entered the medical department of the University of Vermont and graduated with the class of 1898. He became assistant to Dr. J. H. Linsley, then director of the State laboratory of hygiene. In 1901 Dr. Wiltse became director of the laboratory and held that position for three years. The deceased was a member of the Vermont State Medical Society and the American Public Health Association. He was a member of the Delta Mu fraternity and president of the Alumni Association of the Massachusetts College of Pharmacy. He was affiliated with Washington Lodge, F. & A. M.

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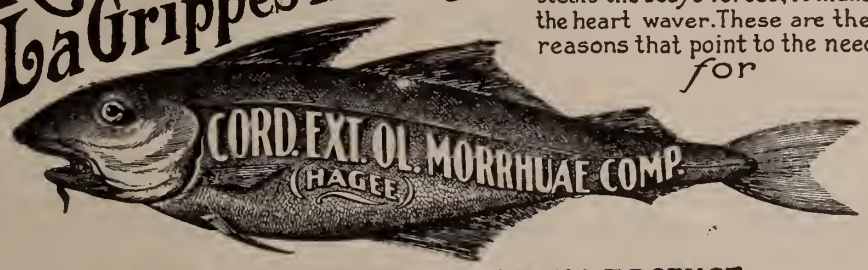
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OLEIC ACID AS THE CAUSE OF ECLAMPSIA.—Polano (*Zeit. f. Geburts u. Gyn.*) mentions the possibility of oleic acid derived from the placenta being the cause of eclamptic poisoning in pregnancy and labor. If this were the case it would be necessary that the oleic acid should be found in more than physiological amount in the placenta, and should have a poisonous effect on the blood cells, causing anemia through the action of sodium oleate. The action of this poison would also have to be sudden. It would result only from a direct action of the sodium oleate on the central nervous system, an action which it is known that this drug does not produce. He has made an examination as to the amount of oleic acid to be found in the placenta in a normal condition and in a condition of eclampsia; whether there is a difference in the amount of oleic acid to be found in the blood of a case of eclampsia and that of a normal woman, and whether in cases of eclampsia sodium oleate is to be found in the urine. For this purpose he examined the placenta in two normal cases and two cases in which the severest form of eclampsia had caused death; the blood obtained by venesection in a case of eclampsia and that of a nongravid case of carcinoma, and the urine obtained immediately after and three to five days after eclampsia. He records his methods and tabulates his results. Oleic acid was found in the normal as well as the eclamptic placenta; it is contained in the villi; no difference was to be found between the normal and the abnormal placenta; the blood of an eclamptic contains no more sodium oleate than normal blood; the urine obtained immediately after the convulsions differs in no way from that several days later. The blood cells are found to be increased rather than diminished in eclampsia. He says that the chemical analysis, experiments on animals, and the clinical and anatomopathological results are against the causation of eclampsia by oleic acid.

NO "FLOATING" OYSTERS.—The Department of Agriculture at Washington recently issued an order forbidding dealers to prepare oysters for the market by the process known as "floating." This order should mean a great hygienic advance, since "floating" affords the principal opportunity for contamination of oysters with typhoid bacilli from sewage.

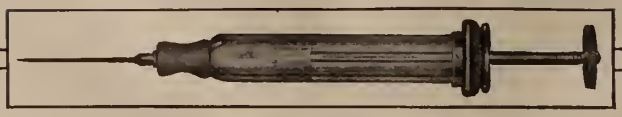
"specific medication for all diseases would be truly utopian. Fortunately, personal idiosyncrasies, the principal factor in the interference of the establishment of internal medicine as an exact science, have no bearing upon a definite treatment for a definite pathological condition, such as is manifested by inflammation, notwithstanding its etiology.

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The Medical Department of the University of Vermont will appreciate it very much if any of the Alumni can furnish catalogues of the Medical Department of the following dates to complete the files, 1857-66-7-8-9-71 and 73. These may be sent to the Dean.



Radium Therapy.—In the July, 1910, issue of the *Gulf States Journal of Medicine and Surgery*, Dr. F. G. Hadgson, of Atlanta, Georgia, in a paper on the above subject says: With regard to epithelioma of the tongue and epithelioma of the lip—they are cured by radium. You say, of what degree? I acknowledge that the cases are ulcerating and that so far as we know can yield to no other treatment except operation. If, therefore, an epithelioma of the tongue can be cured by radium, and cured to the satisfaction of those who are responsible for the case, it is a case of epithelioma cured without operation. Many of these I have seen. The same remark applies to commencing epithelioma on the inside of the mouth. With regard to epithelioma of the face I can speak of these cases at the Paris (radium) Institute. An epithelioma of the face which had perforated into the nasal passage, that was cured after a good many sittings. An epithelioma of the ala nasi, which was destroyed under the influence of radium, after sittings which amounted in all to eight hours. An epithelioma the size of a 2-shilling piece cured and the surface healed over. You may ask, "But are these results permanent?" They apparently are. It is true no great amount of time has elapsed, but some cases were perfectly sound after more than two years. We wait with interest the extension of this treatment to malignant diseases of the uterus and rectum.

Probable Increased Prevalence of Frostbite.—As the navigation of the air becomes an assured fact, aviators have more and more to say about the intense cold which they encounter a short distance away from the earth's surface. Thus, the probabilities are that frostbite which does not figure to a large extent among prevailing maladies will assume larger and more extensive importance.

Frostbite is no joke even if the pain is relieved within a reasonable time. The effects of frostbite persist during the balance of the lifetime of the victim. Frostbitten toes are a never-ending source of inconvenience to the proprietor. The boy in his teens who carelessly allows himself to be frostbitten will have plenty of reason to remember it when he becomes advanced in years.

Types of Anemia—No. 4

THE ANEMIA OF SPECIFIC DISEASE

partakes of the general character of all secondary anemias. Anti-syphilitic medication is almost always aided by judicious hematinic treatment.

Pepto-Mangan (Gude)

in this, as in all conditions of blood poverty, is the ideal, non-irritant, non-constipating, readily absorbable blood builder and reconstituent.

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298 Broadway, New York, N. Y.

Vermont Medical Monthly.

VOL. XVII. APRIL 15, 1911. NUMBER 4.

ORIGINAL ARTICLES.

SURGICAL TREATMENT OF EMPYEMA WITHOUT COMPLICATING APPARATUS.*

BY

SAMUEL LLOYD, M. D., NEW YORK.

Professor of Surgery, New York Post-Graduate Hospital; Attending Surgeon, New York Post-Graduate Hospital and Babies' Wards and to St. Francis' Hospital; Consulting Surgeon, New York Italian Hospital, St. Mary's Hospital, Orange, N. J., and to the Benedictine Sanitarium, Kingston, N. Y.

An empyema or a serofibrinous pleurisy in the adult is said by many authorities to be invariably tuberculous. I cannot subscribe to this conclusion. In my opinion, empyema in infants and children is rarely due to tuberculosis, and while it is more frequently due to this infection in the adult it is still sufficiently uncommon to cause comment,—at least, this is my experience.

In by far the greater number of cases of empyema an earlier diagnosis would have prevented the damage to the lung and would probably have saved the patient from a serious major operation. The earlier any case of empyema is operated upon, the better it will be for the patient and the quicker the recovery will be.

Medical men do not make the diagnosis as early as they should. I am aware of the difficulties that surround them, the arguments that have been advanced against exploratory puncture of the chest wall, and of the feeling engendered by years of iteration and reiteration that these cases are almost always tuberculous, hence the futility of doing anything for them.

In my opinion, just as soon as flatness can be made out in the chest, a needle should be inserted and the fluid drawn off. If it is not purulent, it should all be aspirated and examined in the laboratory.

Often when aspirating a chest that is filled with fluid, after a certain quantity has been withdrawn the patient begins to cough and sometimes becomes cyanotic; as soon as these symptoms are noticed the aspiration should cease. The chest may be aspirated again after a day or two and the remainder of the serum be taken away.

Some medical men have been so impressed with the fact that thoracentesis leads to empyema through infection of the fluid by the needle that it is very difficult to persuade them to use even a syringe for diagnostic purposes. I am fully cognizant of all that has been written on this subject, including the statistical paper of Holt.[1] Nothing could be more fallacious than the arguments advanced in these papers. Holt and all the others, arguing from false premises, have reached false conclusions.

It stands without argument that if thoracentesis is performed carelessly, with dirty hands and instruments, and through a dirty skin, infection will surely result; but when performed carefully, with full aseptic precautions, it will no more lead to suppuration than tapping a hydrocele does. The hands of the operator, the skin of the patient, and the instruments should all be as carefully prepared as though a major operation is to be performed, and the patient should be in a recumbent or semi-recumbent position.

It is undoubtedly true that often following a puncture where only serum is obtained, pus will be found later. This is not due to an infection at the time of the puncture, but to the fact that bacilli are already present; the fluid would have become purulent if the needle had never been employed. This explains the purulency and the mortality spoken of by the opponents of aspiration. Much information may also be obtained by the examination of this fluid.

Animal inoculation with the fluid may also be tried and will often aid in the diagnosis. Direct culture of the fluid should also be made to determine, if possible, the infectious organism. This is of great value, as it enables us to develop an autogenous serum which may be of value in combating the general infection.

Gilbert and Fede[2] advocated the use of serum withdrawn from a case of serofibrinous pleurisy as an autogenous vaccine. Their views were corroborated by Nasetti[3] and by Snultgen.[4] This method, as reported by Beck,[5] consists in with-

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drawing by means of a Pravaz syringe 1 c. c. of the serofibrinous exudate and reinjecting it subcutaneously. The injections are made daily for four or five days, according to the severity of the case, and within twelve to fifteen days the fluid in the pleural cavity usually disappears. No bad after effects were noted. Snultgen reported fourteen successful cases out of fifteen treated in this way in Professor Senator's clinic. This is much simpler than developing an autogenous serum, which requires time and special training in technique. Beck's comments on this method of treatment are unjust, in my opinion, when he asks: "Does the disappearance of the fluid also cure the underlying disease, namely, the tuberculosis? Have the patients remained well, or have they developed tuberculosis later on?" If these cases had been tuberculous they would probably have shown less improvement, for it is in the tuberculous cases that we have had the least benefit from serum treatment. The probabilities are that these cases were streptococcic, staphylococcic, pneumococcic, or mixed infection.

I must reiterate my conclusions, drawn solely from personal experience, that tuberculous pleurisy is the exception, not the rule. That tuberculosis may be grafted on the other condition, is true, but I believe we will usually be able to recognize it when it develops. For several years past we have been examining the pus in every case of empyema, and we almost invariably find that the cause is some other than a tuberculous infection. If the fluid proves to be sterile, it may be tuberculous, as is generally supposed, or it may be a transudate.

Skiagraphy of the chest is of great value. In every instance the whole chest should be taken on the same plate in order that the healthy may be compared with the diseased side. A skiagraph will often enable us to make out whether we are dealing with a simple or an encapsulated effusion, whether there are single or multiple tuberculous lesions in the lung itself; or whether, in the post-pneumonic cases, there is an abscess of the lung complicating the pleuritic effusion.

Beck [6] has derived much benefit in these cases from stereoscopic radiographs. I have found this method of great advantage in differentiating between lung abscess and pleuritic effusion. We must not be too certain when we find a focus in the lung complicating the effusion in the pleural cavity that we are dealing with tuberculosis. A careful review of the history may reveal the fact that the whole condition is subsequent to an attack of pneumonia, and that when the medical attendants found that this pneumonia did not resolve in the usual way they concluded that the case was tuberculous. The absence of the bacilli of tuberculosis should lead to a further investigation along bacterial lines, especially to determine the presence or absence of pneumococci, streptococci, or staphylococci in the sputum. If these are found, the condition indicates a lung abscess and is amenable to surgical intervention. [7]

If we could subscribe to the views of the many observers that serofibrinous pleurisies, as well as many cases of empyema, are invariably tuberculous, we should be obliged to adopt the views of Forlanini,[8] Murphy,[9] Brauer,[10] and others who advocated compression of the lung, either by gas or fluid, in order to put the organ at rest and to aid the healing of the tuberculous focus.

Convinced as I am that these cases are so rarely tuberculous in the first instance, and that if they are properly treated a large proportion can be restored to health with properly functionating lungs, I must enter my earnest protest against any operative or other procedure that depends upon lung compression as the means of cure. Because of my feeling in this regard, I am obliged to advise early aspiration in every case not distinctly tuberculous or cancerous, or due to a simple transudate. If when the fluid is withdrawn it is found to be slightly purulent, just beginning to change from serum to pus, an incision should be made between the ribs and drainage established. This will often effect a cure, especially if the adhesions are few and light, so that the lung can expand. If after a few days the lung is still found to be contracted, one or more ribs should be removed and the adhesions broken up until the lung can be made to thoroughly fill the pleural cavity. In the purely pneumococcic cases, the aspiration is often all that is necessary, if done early.

The conditions of the lung found at operation show the necessity of this early removal of the fluid. As the fluid increases in the pleural cavity it displaces the lung, pushing it either upward into the apex,—when it seems about the size of an ordinary hard rubber ball,—or backward against the posterior chest wall along the mediastinal margin; or, rarely, along the anterior wall of the chest toward the median line. As the pleurisy extends and the inflammatory process involves greater areas of the pleural surfaces, the

adhesions become more and more firm, until after a short time they form great bands,—often so hard and thick that it is impossible to differentiate them from collapsed lung tissue. Only the other day, in operating upon a child in the Babies' Wards of the New York Post-Graduate Hospital, I amputated the lower segment of the lung in freeing it from its inflammatory adhesions to the diaphragm.

If we watch the lung through a large opening in the chest wall, while it is retained by these limiting adhesions, we find little or no respiratory action. It is collapsed in the cavity, and sometimes it is impossible to make out, even by close inspection, where the lung is lying. Its margin cannot be outlined, and it is so firmly adherent to the parietal pleura that it is nothing more than a part of the lining membrane of the suppurating pleural space. Shall we simply render this cavity sterile by injecting bactericidal fluids, fill the cavity with air or gas, or remove the bony chest wall and cause the soft tissues to fall in until the adhesions between the parietal and pleural surfaces, as advocated by Estländer and Schede, obliterate the suppurating surfaces; or adopt the methods of Delorme and Fowler or Ransohoff, and liberating the lung from its pleural covering, allow it to expand and fill the cavity? I believe that it is only in exceptional and very old cases that any of these methods will be required.

The Estländer and Schede operations were devised at a time when it was suppposed that any interference with a collapsed and adherent lung must result disastrously to the patient. They believed that after the pleural space had been converted into an abscess cavity, the only means of cure was by removing enough of the ribs to allow the chest wall to fall in sufficiently so that the parietal and pulmonary pleurae should come in contact and by agglutination, close the cavity. All the rules of surgical procedure up to this time were opposed to any interference with the lung itself. These methods of operating have recently been improved by Brauer [12] and Frederici.[13]

The Fowler and Delorme operation was an advance, because they recognized the fact that the pulmonary tissue was capable of re-expansion. By this means they avoided the mutilation of the older operations and restored some functional power to the inactive lung.

Ransohoff's method [14] is simply a modification of this operation.

All of these methods resulted from a belief that the older teaching was correct. We were all taught that if an opening was made in the chest wall larger than three-quarters the diameter of the main bronchus the lung must inevitably collapse. We were also taught that when an empyema was present the pleura lost both its expansibility and its irritability.

All of these statements are incorrect.

The lung may be made to expand, without any cumbersome apparatus, no matter how large the opening into the chest wall; the pleura will expand, if freed from its limiting adhesions, just as readily as the pulmonary tissue; and even the inflamed pleura retains its irritability when the patient is not completely narcotized.

A great deal of experimental work has been carried on in the last few years to develop some means of operating upon the lung without allowing collapse of that organ. The cabinet devised by Sauerbruch in Mickulicz's clinic at Breslau, now modified so skillfully by Willy Meyer of New York, and the work of Brauer at Heidelberg, are well known. So, too, the experimental work of Robinson and Meltzer, and others, in developing methods of applying positive pressure in intrathoracic surgery, is equally appreciated. But all of this work, important as it is in animal experimentation, is unnecessary in unilateral operations upon the human being. Something of this kind is essential if an operation involves opening both pleural cavities, but when only one side has to be operated upon not only can the lung be made to expand, no matter what the size of the opening in the chest wall, but it can be maintained in full expansion throughout even a prolonged operation, or it can be made to collapse at the will of the operator.

It is evident, if my line of reasoning is correct, that the greater the quantity, and the longer an inflammatory effusion remains in the pleural cavity the greater will be the compression of the lung, and the firmer and more general the limiting adhesions. It is, therefore, advantageous to aspirate the chest early, and often if necessary, in order to preserve the functional activity of the lung. If the fluid is infected, or if it is already purulent, constant drainage should be provided by an incision between the ribs and the insertion of a drainage tube.

When these methods fail and the lung does not expand, or if the case is already one of chronic pleurisy, a more radical operation is essential.

The operation should be carried out in the following way: In determining upon the site for the opening in the chest, we must take into consideration the necessity of breaking up the adhesions throughout the whole of the pleural cavity, and select a point that will enable us to reach the apex and at the same time free the lung from the diaphragm. The location of my incision, therefore, is no longer at the bottom of the pleural cavity, but is as nearly as possible midway, and on the side rather than in front or back. In small children, three inches of the 6th and 7th ribs will usually answer; in adults, it may be necessary to take a three-inch piece out of the 5th, 6th and 7th, to enable the operator to reach all parts of the pleural cavity easily. As soon as the ribs have been excised,—and this is done sub-periosteally,—the pleura is opened. At first it is best simply to make a small puncture, allowing the pus to escape gradually until it is evident that the withdrawal of pressure from the pleura will not disturb the heart's action. The anaesthetic must be ether. The patient is put completely under and kept in complete anaesthesia until the ribs are excised. As soon as this is done, the anaesthetic should be stopped and no more administered, unless during the course of the operation it should become necessary to collapse the lung again. As soon as possible the pleural opening is enlarged to its full extent, and the finger seeks out the location of the collapsed lung.

At first sight it seems impossible to obtain any improvement in such an organ; but, feeling the way carefully, the finger separates the adhesions, keeping as close to the parietal pleura as possible during the manipulations. If the empyema is recent, the adhesions break just as readily as about the appendix in a recent case of appendicitis; if it is old, it may be very difficult to separate them, and at times almost impossible to recognize the lines of cleavage between the diaphragm and the lung. During the course of this first exploratory examination, the coagulated lymph will be loosened from its attachments and can be drawn out of the cavity; if it is not readily disposed of, hot normal saline should be poured from a pitcher into the pleura until all of these coagula have been washed away, in order that they may not interfere with the sense of touch or with the view of the expanding lung as it comes forward. If still large masses adhere, they should be scraped away with a sharp curette. If the adhesions are so firm that they cannot be broken with the finger, they should be cut with a pair of curved scissors as close to the parietal surface as possible. If much force is required in breaking them, it is better to use scissors. It is true that in this separation of the adhesions we frequently tear into the lung tissue itself, and sometimes even into a bronchus. One need have no fear of complications in case this accident occurs, as the hemorrhage is usually very slight and stops quickly when the cavity is irrigated; or if one is not certain how much bleeding is coming from the tear, the anaesthetist may reapply his ether and bring the patient again under complete anaesthesia, when the lung will again collapse and the operator can examine the size of the laceration of the lung tissue. In case there is bleeding formidable enough to require control, the spot may be touched with the Paquelin cautery, or a purse-string suture may be passed around and tied, while the lung is compressed between the fingers and thumb of the left hand. When this is done, the anaesthetic should be again withdrawn and the breaking of the adhesions continued. If the adhesions are very extensive it will be found from time to time that there is considerable blood clot in the cavity, and this had better be washed out with hot saline poured from a pitcher as before.

During the separation of the adhesions, the patient is gradually recovering from the effect of the anaesthetic, and it will soon be discovered that as the finger sweeps the pulmonary pleura a hacking pleuritic cough will develop. With each cough the collapsed lung expands, until it not only fully occupies the cavity but often it is pushed through the opening and portions of it can be drawn outside. This is readily explained. The irritation of the pleura causes a cough, a sudden expulsion of air from the healthy lung through a partially closed glottis. The obstruction, therefore, is at the upper end of the breathing apparatus; more air is being driven through the trachea than escapes through the superior opening, and the surplus must flow over into the open bronchus of the collapsed

lung. In other words, we compel the patient to use the healthy lung as a pump to blow up the collapsed one.

It will be readily seen that, with the gradual expansion of the lung during the liberation of the adhesions, the surgeon cannot fail to recognize whether the aeration spreads throughout the whole lung or whether there are areas which remain flat and offer more resistance to the examining finger. When this latter condition is present, ocular investigation should be added to the sense of touch. A pair of retractors should be inserted on each side of the incision, the wound spread open to its full extent, and the free fluid in the cavity taken up with gauze until the pulmonary surface can be clearly seen. It will often be recognized that some area will have a grayish appearance, and palpation at this point may reveal fluctuation. Not infrequently an opening will be seen over this surface through which pus can be pressed.

If this condition is made out, a lung abscess is present. This may be tuberculous, or it may be that it has followed a pneumonia. In either case, an aspirating needle should be inserted, and if pus is found the lung cavity should be opened. This is readily done without appreciable haemorrhage, if a pair of dressing forceps is plunged into the cavity,—using the needle as a guide,—and the handles spread apart until inspection of the cavity is possible. In my opinion, the cases of so-called unresolved pneumonia are in reality lung abscesses, and should be treated in this way.

The success of this operation depends first upon the evacuation of the pus: second, upon the removal of all the lymph coagula, even curetting these away if necessary, so that the pleural surfaces may fall in contact when the full expansion is obtained: third, breaking down all limiting adhesions; fourth, irritation of the pleura to induce coughing; fifth, washing out of the cavity to get rid of all blood clots and debris.

The washing-out of the cavity is, of course, open to criticism. The bad results that formerly followed irrigations after operation for empyema have created an almost insuperable prejudice against this procedure. I can readily see that filling the chest cavity with fluid while the lung is still bound down, pouring it through a small opening and not allowing for sufficient egress, will increase the pressure to such an extent that serious consequences result; but I never allow ordinary irrigation of the pulmonary cavity. The wound must be held well open and the fluid be poured in from a pitcher; only so much fluid then enters the chest as can fill the spaces about the expanding lung, and the active motions of the lung during respiration "swash" this fluid around and force it out again through the opening. There is, therefore, never any increased hydrostatic pressure, and the hot solution seems to have rather a stimulating effect upon the patient.

In the early part of this paper I said that ether was the anaesthetic that should be used in these cases. The reason for this is that the recovery from ether is more gradual than from chloroform, and consequently there is more time for intrathoracic work before the patient becomes fully conscious. It is essential that the anaesthesia shall cease at once after excision of the ribs and before the pleura is opened. This should be done, because occasionally we find that the fluid is evacuated very rapidly in spite of all efforts to control it,—the intra-pleural pressure being so great that it bursts through the pleura as soon as the soft parts are cut through and the ribs removed. In these cases, if the adhesions are recent, the lung breaks away from them, fills the pleural cavity, and at the same time a large amount of anaesthetic is inhaled. A more important reason for stopping the anaesthetic is to allow the patient to recover consciousness during the remainder of the manipulation.

In my experience, the mortality in empyema depends upon the type of infection which causes the disease, and upon the length of time it has existed prior to operation. The streptococcic cases are almost all fatal. The pneumococcic ones almost all recover, even when a lung abscess is opened and drained at the time of the original operation. Of course, the older the case and the greater the general toxaemia, the greater the mortality.

This method of operating has enabled me to recognize a pulmonary carcinoma in the lower lobe of the right lung. This was excised, a piece of lung tissue about the size of a fifty-cent piece was removed, and the opening closed, while the haemorrhage was controlled by the pressure between the thumb and fingers of the left hand, by means of a locked purse-string suture. The patient made a complete recovery,

and lived a year, finally succumbing to a general carcinoma of the lung.

[1]Holt. Archives Pediatrics, 1892, p. 349.
[2]Gilbert and Fede. Schmidt's Jarhbuch d. in u. Ausland Med., 1907, xcv, 247.
[3]Nasetti. Ref. Deutsch Med. Woch., 1908, No. 42, p. 1819.
[4]Snultgen. Berliner Klin. Woch., Jan. 18, 1908, p. 97.
[5]Beck, E. G. Illinois Med. Jour., October, 1909.
[6]Beck, E. G. Jour. Am. Med. Ass'n., Vol. liii, pp. 2060-2068.
[7]Lloyd, Samuel. Post-Graduate (?).
[8]Forlanini. Deutsch Med. Woch., 1906, No. 35.
[9]Murphy. Jour. Am. Med. Ass'n., 1898, xxxi, pp. 151, 208, 281, 341.
[10]Brauer. München Med. Woch., 1906, No. 7.
[11]Lexor, C. Beitr. Z. Klin. d. Tub., 1907, viii, 101.
[12]Brauer. Beitr. Z. Klin. d. Tub., xii, 49.
[13]Frederici. Münch. Med. Woch., Dec. 1, 1908.
[14]Ransohoff. Annals of Surgery (?)

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DISCUSSION.

Discussion by Dr. Crain of Rutland, Vt.:—I have no information to add. I do not think it necessary to make an excision of the ribs in most cases in operating on the lungs. An incision can be made between the 8th and 9th ribs and the pus drained out. In most cases the pulmonary circulation is very low and if you do not cut deeply there is very little danger; of course when you cut deep you have to cut more carefully. I am becoming more and more inclined to operate in lung diseases.

Discussion by Dr. Allen of Burlington, Vt.:—I am particularly interested in this paper of Dr. Lloyd's because he has shown so clearly that an operation on the thorax cavity can be made without expensive apparatus. We have heard so much about apparatus that we have come to think that nothing can be done without an extensive outfit. I would like to ask the Doctor if in closing an incision any drain is left? It would seem as if a pus drain ought to be had so that the pus can sooner be eliminated. It is not at all difficult, as the Doctor says to excise two or three ribs and to separate an adhesion from the wall.

Dr. Lloyd:—I agree with Dr. Crain, it is in only a small proportion of cases that an excision of the ribs is necessary. I always drain off the fluid, in cases of adhesion there is usually very little pus. In cases of slow healing I have used Beck's paste. I have operated on something over 800 cases of lung abscess and have not as yet had any failures.

Questions by Dr. Melville of St. Albans, Vt.:—I would like to ask Dr. Lloyd if he would operate for removing foreign bodies. So many times young children swallow foreign bodies. I had a case not long ago of a child that appeared to be suffering from pneumonia, was somewhat congested and had great difficulty in breathing. This condition lasted for from two to three weeks when the child had a violent fit of coughing and threw up a large tack, so in this case the difficulty solved itself, but I would like to know the Doctor's opinion.

Dr. Lloyd:—I would operate, cut down and remove the foreign body.

ANAPHYLAXIS.*

BY

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While the phenomenon of anaphylaxis has until recently claimed the attention only of the laboratory worker, the application of its principles has promised so much as explanation for some clinical facts heretofore unexplained that the subject has gone beyond the stage of mere laboratory investigation and has become of definite interest and value to the practitioner. The present paper will not attempt any thorough treatment of the question, which is an increasingly large one, for such an attempt would lead us too far afield and might indeed end in disaster, since we should be in some danger of wandering about amidst a great array of more or less disjointed facts until we had all lost our way. But the matter offers certain larger points which have a very real significance for the physician in his daily work and it is hoped that these may be brought out for your consideration, if not always for your unqualified acceptance.

Experimental work in immunity brought to light long ago the fact that occasionally animals which had received injections of serum intended to render them immune against further doses of the same serum failed to become immunized, but were, on the contrary, rendered more susceptible than was normal to the action of a second dose of the same serum. Such isolated cases while noted and speculated upon were not further investigated until comparatively recently but during the past few years they have been carefully studied with the result that to-day they are recognized as being due to a well-defined bodily state or condition which has been termed "Anaphylaxis." The word "anaphylaxis," made up of two Greek words meaning respectively "against" and "protection," was intended by Richet, its originator, to point out the fact that the condition to which it refers is the exact opposite of that condition of protection against disease signified by the word "prophylaxis." Richet's term has remained, although his conception of the matter has been modified by later work and we might better substitute for it, perhaps, the term

*Paper read before the White River Valley Medical Society, Jan. 1911.

"hypersensitiveness" or "hypersusceptibility." You have all, undoubtedly, seen examples of anaphylaxis or hypersusceptibility in your clinical work. That is, you have noticed that the injection of diphtheria antitoxin has been followed at times by a peculiar chain of symptoms. After a longer or shorter interval your patient has presented exanthematous eruptions, edema, sometimes painful, about the site of injection or even at a distance from it, swelling of the contiguous lymph-nodes, and at times, joint pains, slight fever, and albuminuria. Such symptoms have usually come on in from 8 to 13 days after the injection. They have not occurred at all uniformly, nor have they been traceable to any peculiarity in the serum, seeming rather to be an expression of some action upon the human organism exerted by horse serum itself and having no connection with the amount or kind of antitoxic bodies contained in it. Von Pirquet first directed attention to this definite symptom-complex following the injection of horse serum into man and gave to it the name of "the serum disease." This serum disease is now looked upon as an anaphylactic reaction on the part of the patient to some undetermined protein body or bodies native to horse serum.

The condition of anaphylaxis is brought about experimentally in the following way: A minute dose of some foreign protein is injected into an animal—usually the guinea-pig, since he reacts most easily. Any foreign protein may be used, e. g., white of egg, milk, peptone, vegetable extracts, bacterial proteins, or the serum of another animal species. In most of the experimental work horse serum has been used. Of such serum amounts as small as from 1-250 to 1-1,000,000 c. c. are said to be sufficient for the purpose, although in routine work somewhat larger doses are used. Wells found that one one-millionth of a gram of purified egg albumin was sufficient to sensitize a guinea-pig fatally.[1] After the primary injection of, say, horse-serum, in a dose of from .001 to .01 c. c. the guinea-pig is left undisturbed for a period of from 7 to 12 days at least, although, in proportion as the first dose has been larger than the one mentioned, the time may be extended to weeks or months. During this period of rest, or "incubation period" some process has gone on as the result of which the pig has become very susceptible to horse-serum poisoning. That is, the animal is said to be "sensitized" toward horse-serum. If now we inject a comparatively large dose of the serum, as, say, 3 c. c. into our "sensitive" pig, there occurs a sudden and violent disturbance of the animal's vital functions.* Soon after the intoxicating dose has been injected there occur characteristic symptoms which, as graphically described by Anderson,[2] are "shown within 5 or 10 minutes by restlessness and agitation. The pig runs about the cage and sometimes utters signs of distress; then there appear manifestations of peripheral irritation and respiratory embarrassment as shown by scratching at the mouth, coughing, sneezing, rapid and irregular respiration. . . . . The stage of excitement is soon followed by one of paresis, or in some cases, complete paralysis. The animal is unable to stand and, if it attempts to do so, it falls upon its side. Spasms or general convulsions may now appear. Guinea-pigs in a condition of complete paralysis may fully recover, but within a short time convulsions usually begin and are almost invariably a forerunner of a fatal termination." The whole chain of symptoms progresses with great rapidity, so that its whole duration does not exceed thirty minutes in typical cases; during its continuance there is a characteristic fall in blood pressure and also although not regularly in temperature. The heart continues to beat long after respiration ceases and the majority of workers now believe, as first suggested by Auer and Lewis,[3] that death is due to asphyxia produced by a tetanic contraction of the smooth muscle of the bronchioles and alveolar ducts. This theory is supported by convincing experimental work and accords well with the respiratory symptoms noted above in animals suffering from the anaphylactic shock.

The clinical significance of this phenomenon of specific hypersusceptibility depends upon the fact, as has been intimated, that man is himself capable of becoming sensitized to foreign proteins. This is a fact which should be remembered when administering antitoxins although it should not deter us from their use where necessary. Particularly where repeated doses are necessary either during a short period or more particularly after intervals of months or years is it evident that it might be possible for us to sensitize the patient just as the experimenter sensitizes the laboratory animal. Unfor-

*After a sensitizing dose of purified egg albumin, ½ a milligramme of the albumin suffices to this second or "intoxicating" dose.[1]

tunately we can today only recognize the possible danger without being able to avoid it. Certain procedures having to do with the regulation of the size of dose and of the intervals between doses have been found of some value in preventing the experimental shock, as also the procedure of injecting a small amount of the material a few hours before the administration of the full dose desired, but these observations do not appear to have been carried over into the clinical field. It has been claimed that the reaction may be prevented or at least lessened in animals by intravenous injections of hypertonic salt solution.[4]

The typical human reaction, or serum disease, is interesting as modified by the interval between the first and second doses of the serum. Thus von Pirquet and Schick from their observations on diphtheria and antistreptococcus serums, found that a second injection given after an interval of from 12 to 40 days gave an "immediate" reaction, that is one in which the symptoms appear at once or within twenty-four hours; instead of after the usual interval of 8 to 13 days; the reaction may be local or general in character, that is, there may be only local edema or there may be fever and exanthemata; if the interval be from 1½ to 6 months, there may be in addition to the immediate reaction, an "accelerated" reaction appearing after an incubation period of 5 to 6 days; with an interval of more than six months, there appears only the "accelerated" reaction.

Fortunately, the human reaction as appearing in this typical form of the serum sickness is, as you see, not so severe as that typical for the guinea-pig, man reacting in this respect more like the rabbit, which becomes sensitive only after repeated injections and then is more apt to show local rather than general reactions. Nevertheless there do occur rare cases in which the reaction has all the explosive and fatal character of the guinea-pig "shock," and this human reaction is peculiar in that it may occur in man, though never in the lower animals, after the first dose of serum. It is an interesting fact that of the occasional fatal cases of this explosive type of reaction, many have occurred in asthmatics or in those who have a peculiar idiosyncracy toward horses. There are, as you doubtless have observed, certain individuals who suffer discomfort and peculiar asthmatic symptoms when in the neighborhood of horses; what this means we do not know but it appears that such persons are peculiarly liable to anaphylactic shock after a first serum injection. The following case will illustrate the point.[5]

A man 34 years of age, of splendid physique and in the best of health came into a physician's office and asked that he be given an immunizing dose of antitoxin, the reason being that his daughter had just contracted diphtheria. He was given almost all of a 1000 unit tube. After two or three minutes the man arose from the reclining posture in which he had been, and said as he got up, "I feel as though that stuff were blistering me." He then said "My face and scalp itch and burn terribly," and began to scratch his head vigorously with both hands. His next remark was "I cannot breathe." He sat down, the lips dark, face anxious. He complained of itching all over the body and said, "I am on fire inside." The breathing was now very labored, the lips, face, and neck much swollen and very dark; a thick heavy froth issued from the mouth. He was apparently paralyzed, since he made no voluntary movement of any part of the body. He then had a slight convulsion, lasting but a few seconds, after which he ceased to breathe. The action of the heart continued for a considerable time after respiration stopped. The physician, with the assistance of three colleagues who had been summoned applied artificial respiration without result.

The physician reporting the case continues, "I might add that this man from childhood could never be about horses without suffering from symptoms of asthma."

You will note how closely the symptoms in this case follow those observed in the experimental shock of the guinea-pig.

The condition of sensitiveness may be transmitted directly from a sensitive to a normal animal by the transference from the former to the latter of a very small quantity of blood serum. An animal thus "passively sensitized" becomes susceptible within a comparatively short time after receiving the sensitive serum, but it appears probable that the sensitive state is limited in its duration. Of more practical value to us is the analogous fact that a hypersusceptibility may be transmitted from a sensitive mother to the young in utero. Thus, if a female guinea-pig be treated, either before or during pregnancy, with a sensitizing dose of foreign protein, her young, or

at least a portion of them,[6] will prove acutely sensitive to an injection of the same protein. We may have here, perhaps, the long-sought explanation for the inherited tendency to tuberculosis. It has never been proved that the offspring of a tuberculous mother can be directly infected through the placenta, although such infection undoubtedly occurs in some other diseases, as notably in smallpox. But it is recognized that the child of a tuberculous mother is more than normally susceptible to tubercular infection after birth. The conception of this inherited tendency toward tuberculosis as an expression of anaphylactic sensitiveness toward the poisonous proteins of the tubercle bacillus makes it clear why an individual thus sensitive will succumb at the first opportunity to an infection by the bacillus while one not born sensitive may more easily resist invasion or carry, at the most, but some slight apical scar as the result of an infection which would have destroyed the other.

An interesting speculation concerns the question whether another set of phenomena may not be conceived of as depending upon an anaphylactic reaction. This is the peculiar idiosyncracy exhibited by some persons toward certain foods or classes of foods. Examples are not uncommon of persons in whom the eating of certain foods leads to the production of skin rashes and other evidences of constitutional disturbance somewhat resembling the symptoms of the serum disease. Foods provoking such symptoms, as e. g., nuts, shell-fish, etc., are not uniformly hostile to man, and the regularity and certainty with which they produce their characteristic effects in the susceptible individual must depend, it would seem, upon some more definite factor than "neurasthenia" or "dyspepsia." Just how the sensitiveness could be brought about and maintained here is, of course, a question, but it is known that animals may be rendered susceptible to a protein through its introduction into the body by way of the digestive tract.

It is suggested also that the toxemias of pregnancy may depend upon some hypersensitiveness of the mother toward proteins of placental origin.[7]

The reactions to the diagnostic agents tuberculin and mallein appear without much doubt to be reactions of anaphylaxis. Here we introduce into the tissues a suspension or solution of bacterial proteins. Should the animal so treated have become infected by the specific organism previously it will react to the proteins contained in or elaborated by that organism, since it will be hypersensitive toward them; should the animal be free from previous infection it will not be affected by a quantity of protein so comparatively insignificant as that used for the test.

As has been said we know little or nothing as to the mechanism upon which this whole phenomenon depends. Theories there are in plenty, but the results of different workers are too inconclusive to make it possible that a definitely substantiated theory be formed as yet. The reaction will probably align itself ultimately with the previously known reactions of immunity, proving but a variant of these and explainable along much the same lines. The shock appears to be due to sudden reaction taking place between the foreign protein and certain bodies in the serum or in the body cells or in both, the combination taking place with volcanic intensity and utterly destroying the normal metabolic activity of the whole body either as a result of the combination itself or of the compounds resulting from it. It is a moot point whether there is a single body in the protein which first sensitizes and later poisons the animal or whether there are two bodies or fragments of the protein molecule concerned in the reaction. Of practical significance to us is the fact, no matter what its explanation, that the condition of sensitiveness may pass over, after recovery from a sub-lethal dose of protein, into a condition of absolute non-sensitiveness or "anti-anaphylaxis" during which the animal is absolutely resistant to any attack of the protein; this state passes gradually into that state of relative insusceptibility which we have long recognized under the term "immunity," i. e., a condition in which successful attack against the body occurs only infrequently or under certain favorable conditions; and this immunity may again give way to a final condition in which the animal is again hypersensitive.[8] Major Russell in the course of prophylactic inoculations against typhoid in the U. S. Army observed hypersensitiveness toward the typhoid bacillus in patients who had previously had typhoid fever, the intervals since the attack extending at times over a period of 30 to 35 years.[9]

It seems not at all unlikely that the condition of clinical immunity is reached many times by way of a primary hypersensitiveness. In the acute exanthemata we see an incubation period of from one to two weeks, that is, of a time ap-

proximating that of the experimental anaphylactic reaction and of the serum disease; then there appears a sudden constitutional reaction marked by fever, eruptions, albuminuria, etc., after whose subsidence the person attacked passes into a condition of absolute resistance to the disease, though this condition may later pass over into a condition of less resistant "immunity," as is evidenced by the occasional second attack years after the first. In pneumonia the "crisis" may likewise be an example of anaphylactic shock, after surviving which the patient makes the same rapid recovery from subjective symptoms as is seen in recovery from experimental shock in the guinea-pig. The explanation for the critical amelioration of symptoms in pneumonia based on the assumption that it was due to an accumulation of antitoxic bodies in the blood has always suffered from the fact that no such antitoxic bodies in the old sense could be demonstrated. Accepting tentatively the anaphylactic explanation for the recovery in pneumonia it must however be recognized that the period of anti-anaphylaxis in this infection may be of unusually short duration.

Thus far the search for a means of combatting anaphylactic shock after serum injections or of preventing its appearance has been without any very large result. So far as drugs are concerned the most hopeful results have been obtained by the use of atropin, chloral hydrate, adrenalin, and oxygen, alone or in various combinations. Such remedies have been reported upon more or less favorably, and have appeared to have a certain amount of value though their action is never certainly curative nor always protective and large doses have been found necessary in order that their action might be secured. The claim that shock could be avoided by administering the serum while the animal was held under ether narcosis appeared logical but has failed of confirmation, the ether merely masking the symptoms without protecting the animal. When we consider the probable nature of the reaction causing the symptoms, it becomes clear that the search for a curative agent is apt to be a long one. It would seem that once the condition of sensitiveness is established, there is little promise of finding an agent capable of throwing itself in as a buffer between the reacting bodies of the fluids and tissues unless the result may be obtained through the use of some such agent as the hypertonic salt solution above referred to, whose theoretical action in this case is somewhat that of a buffer. Theoretically success would seem to depend more upon finding some method for so altering the foreign proteins used therapeutically that they would fail to sensitize the subject in the first place, or would fail to intoxicate him even though sensitized by the first dose. Working upon the hypothesis as maintained by Gay and Southard[10] [11] that two protein bodies are concerned, Gay and Adler have attacked the problem from this side, and have obtained some suggestive results in that they believed that they could precipitate from the whole horse serum two fractions, one of which, while it sensitizes the animal does not subsequently intoxicate it.[12]

In conclusion, you will see that the questions suggested by the anaphylactic phenomena are far from being answered satisfactorily, but it is equally clear that the field here opened is full of possibilities for future development. We must be careful, of course, in the more speculative aspects of the problem not to be led astray through an enthusiasm aroused by the discovery of a new argument for explaining observed phenomena, experimental or clinical, yet the points above suggested for your consideration as clinicians appear worthy of attention, and it seems very possible that from a further study of anaphylaxis we may come to a more complete understanding of many pathological phenomena which have heretofore remained disjointed and unintelligible.

[1]Wells, G. (Jour. Infect. Dis. v, No. 4, 1908, pp. 449-483).
[2]Anderson, J. F. (Bull. J. Hopkins Hosp., xxi, No. 232, p. 219).
[3]Auer, J. and Lewis, P. A. (Jour. A. M. A., liii, No. 6, 1909, p. 458).
[4]Friedberger and Hartog. (Ref. Alpen, Centralbl. f. Bakt., etc., Orig. Bd., 57, Hft. 3).
[5]Wiley, S. N. (Case report in Jour. Am. Med. Ass'n., l, No. 2, 1908, p. 137).
[6]Lewis, P. A. (Jour. Exp. Med. x, 1908, pp. 1-29).
[7]Anderson and Rosenau. (J. Med. Res., xix, 1908, pp. 37-66).
[8]Anderson, J. F. and Frost, W. H. (Bull. No. 64, Hygienic Laboratory, 1910, p. 44).
[9]Russell, F. F. (J. Hopkins Hosp. Bull., xxi. No. 228, Mar., 1910).
[10]Gay, F. P. and Southard, E. F. (Jour. Med. Res. xvi., 1907, pp. 143-177), and
[11]*Ibid* xviii, 1908, pp. 407-431.
[12]Gay, F. P. and Adler, H. M. (Jour. Med. Res., xviii, 1908, pp. 433-449).

VAGINO-FIXATION OF THE RETROVERTED UTERUS IN THE CURE OF CYSTOCELE IN PAROUS WOMEN. THREE CASE REPORTS.

BY

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Cystocele is a remote result of parturition, and is present to a greater or less degree in every phase of uterine prolapse, together with impairment of the integrity of the sacral segment of the pelvic floor. In parous women, the primary impulse to uterine prolapse originates during labor, in the incarceration of the anterior walls of the bladder and vagina, together with the anterior lip of the cervix, under and against the pubic arch. Added to this is the intermittent forceful impact of the descending foetal head upon the constantly filling bladder. These combined forces may thus constitute such an enormous strain upon that portion of the pelvic fascia, intervening between the bladder and the anterior vaginal wall, that becoming too great for the inelastic fascia to bear, it breaks, and a true hernia results. Therefore, any cystocele must properly be regarded as a true hernia of the bladder and be treated accordingly. Antiquated denudation methods are not honest to the patient, since relapse will almost certainly ensue, unless the principle of Hadra be taken into account, which is, namely, that *"In all operations for the successful treatment of cystocele, there must be free detachment of the bladder from the vagina, and the anterior face of the uterus. Any herniated bladder thus freed is drawn upward into the pelvis by its own ligaments."* Hence this should be the primary step in any technique for the cure of any kind of cystocele, and should be followed by the correction of all contributory pathological conditions.

The principle enunciated by Hadra in 1889 gave a new impetus to the study of cystocele, and has made possible the evolution of the perfected operation, which it is the object of this paper to elucidate. Vagino-fixation of the uterus, for the cure of cystocele, is, to my mind at least, as far superior to all the methods described in the text books as is the modern anatomical perincorrhaphy to the time honored but faulty denuding method of Emmet.

To Duhrssen and Mackenredt is due the high honor of being pioneers in vaginal coeliotomy, i. e., entering the peritoneal cavity by the vaginal route. Their work made possible the practical application of the principle of Hadra in the treatment of cystocele.

In operating the following rules should be observed:—

1st. The bladder must be freed from the fascia and uterus, and allowed to rise out of the pelvis.

2nd. The retroverted or prolapsed uterus must be restored to its anatomical position by a method that will hold it there.

3rd. The sacral segment of the perineal floor must be restored by actually bringing the retracted segments of the torn muscles and fascia into apposition, and holding them there by buried chromic gut sutures, in the manner recently so admirably described and demonstrated on the cadaver by Haines, at the 1908 convention of the Vermont State Medical Society.

The first of these propositions is to be met in the way to be described later; the second has usually been met by the employment of the ventral suspension, or ventral fixation method of Howard Kelly. The Kelly method of restoring the uterus to its normal position is, however, rapidly falling into disuse, as establishing unnatural and dangerous anatomical conditions. Vaginal fixation or vaginal suspension, as herein described, of the retroverted or prolapsed uterus, approximates most nearly to the anatomical condition of anteversion, and reduces to the minimum possible post-operative disabilities or relapse.

The third indication is met by the Haines operation on the pelvic floor.

I have employed vaginal fixation in three cases within the past six months with most satisfactory results. These cases are as follows:—

Case 1.—June 1st, 1910.

Mrs. E. American, age 74, 4-para. For years dragging weight in pelvis, obstinate constipation, frequency of micturition, dysuria. Except for moderate senile changes, the heart, lungs, liver, pancreas, spleen and stomach were sound.

Physical examination disclosed a deep, right sided, perineal tear, rectocele, cystocele, relaxed vaginal walls, urethral caruncles, and a hyperplastic and enlarged retroverted and prolapsed uterus. Everything had been tried in the way of mechanical and other means to afford perma-

nent relief, but without avail. The urine showed the kidneys to be functionating normally, but also indicated a chronic catarrhal cystitis, the urine being loaded with decomposed muco-pus, and having a most offensive odor. Urotropin and elix. sawpalmetto with sandalwood U. S. P. was given for several days, the bladder washed frequently and the patient otherwise prepared for operation.

On June 7th she submitted to the operation of vagino-fixation. A preliminary curettement showed fungoid masses. The cavity was dried out and the walls swabbed with pure phenol, alcohol being used thereafter to neutralize the excess outside the cervix. The anterior vaginal wall was thin and extra care was taken in separating it from the bladder. Opening into the perineum and freeing the uterus from old adhesions presented much difficulty, but was finally successful, and the fundus uterus brought out under the pubic arch. The tubes and ovaries were in a normal senile condition. The fundus was then returned into the abdominal cavity and fixated directly to the anterior vaginal wall without the intervention of the vesical fold of the perineum. The perineum was repaired after the Haines method. The urethral caruncles were removed. The patient bore the anaesthetic remarkably well, and slept until late in the afternoon. After treatment consisted of methylene blue pill, gr. 1, with atropine sulph., gr. 1-150, to obviate dysuria. For three or four days some slight passive hemorrhage into the bladder and much phosphatic deposit and pus were washed out, but these gradually disappeared. For a few days there was considerable pain in the lower abdomen, but not enough to require an opiate. The patient recovered finely and left the hospital in three weeks in a most satisfactory condition. The silk worm vaginal sutures were removed four weeks later.

Case 2.—Multipara, age 40. March 17, 1909.

Prolapse 2nd degree, with recto-cystocele, cervix presenting at vulva, chronic catarrhal cystitis, pelvic "drag" purulent and foetid leucorrhoea, deep right lateral perineal laceration, obstinate constipation due to mechanical obstruction of the rectocele. Vaginal fixation was done in exactly the same manner as the preceding case. The adnexa was found to be normal and returned. The perineum was repaired after the Haines method, recovery was smooth and the results ideal, as shown by an examination made within the last few days.

Case 3.—December 20, 1909.

Case 3 is so similar to that just reported that it needs no more than mere mention. This case, also that of a parous woman, age 40, had suffered most from the intense cystic complication due to decomposition of retained urine. This woman is also entirely relieved of all her disabilities.

All these cases wear the Albert Smith pessary as a precautionary measure, until such time as fibrous union seems sufficiently firm to withstand the normal strain. Following the necessary preparatory work on the uterine cavity and cervix the technic of vaginal suspension, or fixation, is briefly as follows: A short bladed Jackson retractor holds the perineum out of the way, while the cervix is grasped by strong vulsellum forceps and pulled down, putting the anterior vaginal wall on a stretch. An inverted T shaped incision is made in the anterior vaginal wall, beginning about one inch below the meatus urinarious. This incision goes downward and intersects a transverse incision placed at the junction of the lower fold of the bladder with the cervix. The bladder is first peeled from the anterior wall of the uterus until the vesico-uterine fold of the peritoneum is reached. This is left intact for the time being, and the attention turned to dissecting the bladder from the anterior vaginal wall. By snipping the vesico-vaginal bands with blunt pointed scissors, curved on the flat, and continuing the dissection laterally with the gauze covered finger the separation of the vaginal wall from the bladder can be greatly expedited. This done the freed bladder rises upward by its own ligaments out of harm's way. Great care must be exercised not to injure the ureters. The proximity of the uterine arteries and their smaller twigs may call for ligation, but usually compression forceps will suffice. After incision of the peritoneum the fundus is forcibly anteverted through the opening, and conserva-

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(Note:—This operation brings the axis of the uterus and the vagina at an acute angle with each other, the cervix pointing toward the hollow of the sacrum, in which position prolapse cannot occur, since the prolapsing uterus must always, as a first step in its downward course, retrovert, bringing its axis in line with the axis of the vagina).

tive work done upon the adnexa if needed. Such conservatism should however stop short of precipitating the climacteric, as although it is not desirous for these parous women to again bear children, it is also not necessary nor advisable to unsex them. Therefore while the healthy ovaries, or some portion of one at least, should always be left, if possible, the tubes can undergo any sterilizing operation the surgeon prefers. Prolapsed ovaries should be hung up by sutures to the broad ligament, or "shelved," by making a buttonhole incision through the broad ligament just below the tube, then passing the prolapsed ovary through to the anterior shelf-like arrangement above the round ligament. A 00 chromic gut suture is placed to retain the ovary until it becomes adherent. All operations upon the adnexa can be done with comparative ease: small tumors can be enucleated. Even moderate sized dermoids, ovarian cysts and haematoceles can be successfully handled.

The median anterior surface of the fundus of the uterus is now stitched directly to the freshly exposed and retracted fascial edges, including sufficient of the posterior surface of the anterior vaginal wall, with three interrupted 20 day chromic gut buried sutures in such a manner and without the intervention of the vesico-uterine fold of the peritoneum as to unite the sutured structures at the median line, which constitutes a *fixation*, by fibrous union, that will hold; the bladder riding on the fundus uteri and allowed to form adhesions. Redundant vaginal flap tissue is cut away and the edges sutured with interrupted No. 00 iron dyed silkworm gut, two of which should be made to penetrate to the fundus uteri as reinforcements. The bladder should not be allowed to become distended for a few days, and the urine kept sweet by the internal administration of urotropine or methylene blue, combined if necessary with irrigation. Should the operator desire to preserve to the patient the child bearing function at the risk of recurrence of her disabilities, *vaginal suspension* may be done, which consists of interposing the lateral flaps of the peritoneum between the fundus uteri on the one hand and the properly trimmed retracted pelvic fascia and anterior vaginal wall on the other, suturing these together with through and through interrupted No. 1 black silkworm gut, removable in thirty days. Curettage, amputation of the cervix and plastic work upon the cervix should precede the fixation or suspension, and the radical perineal operation should complete the work.

Conclusion: 1st. Vaginal fixation and vaginal suspension are suitable and ideal operations to be employed in the cure of 1st and 2nd degree cases of uterine prolapse, complicated with recto-cystocele and broken pelvic floor.

2nd. When the child bearing function is to be preserved, vaginal suspension and conservative operation on the adnexa are indicated.

3rd. When the child bearing function is not to be conserved, in menstruating women, sterilizing operations should be done, without unsexing the woman and the fixation operation employed.

4th. In the post-climacteric period the vaginal fixation technic should always have precedence, with or without the removal of the adnexa.

5th. Vaginal fixation is not indicated in complete prolapse for the reason that usually requiring panhysterectomy the abdominal or the combined routes greatly facilitate the work of subsequently fortifying the great pelvic canal against intestinal hernia.

P. S.—These reported cases have all been examined within the last month and all are found to remain well, as regards the disabilities for which the operations were done.

REFERENCES.

Bandler, Gilliam, Noble, Goffe, Reynolds, White.

23½ Merchants Row.

Gave It to His Uncle.—"Doctor," said the young man with the jingling pockets, "I have come to thank you for your valuable medicine."

"So it helped you, did it?" replied the doctor, smiling. "I am very glad."

The young man nodded.

"It helped me wonderfully," he said.

"And how many bottles did you take?" inquired the medico.

"Oh, I didn't take any of it!" replied young fur coat. "But uncle took one bottle, and now I am his sole heir."—*Answers.*

In Doubt.—"Did you ever have appendicitis?" said the insurance man.

"Well," answered the skeptic, "I was operated on, but I never felt sure whether it was a case of appendicitis or a case of professional curiosity."—*Washington Star.*

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D.,
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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

BURLINGTON, VT., APRIL 15, 1911.

EDITORIAL.

The question of the length of time that a natural water infected with typhoid fever bacilli will remain polluted is a problem of much interest and of great practical importance. The conditions surrounding each water supply are so varying and strains of typhoid bacilli so different in vitality that it is certain that any attempt to settle this question definitely must deal with the individual case, yet any work which gives light on the matter is of great value. Dr. Houston, Director of Water Examination of the London Metropolitan Board has recently published the results of some personal research which is especially valuable as avoiding one possible source of error. Most previous research work on this problem has been made with stock cultures which have been grown for varying lengths of time on artificial laboratory media and hence have presumably become reconciled to saphrophytic life. Dr. Houston found a carrier case which had been responsible for several outbreaks of typhoid fever. This case (a servant girl) was found to be passing urine heavily infected with typhoid fever. A gallon of raw Thames water was polluted with this urine to the extent of containing seven hundred and seven thousand typhoid bacilli per c. c. and stored in the dark at 64-67 degrees F. in a glass stoppered bottle. In one week the number of bacilli had fallen to four per c. c. and in two weeks none were found. On the 24th day the experimenter drank a pint of the water with no bad results. These experiments which parallel others carried on by the author and other research workers with stock cultures show in Dr. Houston's own words "That even a week's storage of raw river water is an enormous protection and less than a month's storage an apparently absolute protection against typhoid fever.

The time is now near at hand when the "first summer boarders" Madam Fly and her children, will arrive, and the approaching advent of this pest should be a signal for the use of every means of defense possible. The time has gone by when the fly may be complacently considered as a nuisance to be borne with as much patience as possible. When we consider that the average total bacteria contained on a series of 414 flies was about one million and a quarter and that these flies leave a trail on our food, on kitchen utensils, on the nipple of the baby's bottle, and in almost every other conceivable place, we must recognize the fly as a positive danger. The fly problem is not such a difficult one as it is generally considered to be, when its solution is approached from a common-sense standpoint. Let it be borne in mind that the female lays her eggs in stable manure, in decaying vegetables and animal refuse, and any form of filth available. These eggs soon hatch out into maggots, which after feeding for a few days pass into the pupal stage and emerge as full

fledged flies. The interval between the laying of the eggs and the appearance of the winged insect is about ten days. Now if these breeding places are removed every week or at least within ten days, the eggs and young are both destroyed and the successive crops are prevented. In the absence of removal, covering with earth or sprinkling with chloride of lime or copper sulphate, is the next in effectiveness. The presence of human fecal matter is, of course, the most dangerous of all, on account of the prevalence of typhoid and its undoubted distribution by flies. Such a breeding place is most easily removed or sterilized and such methods should be insisted upon. Screening of doors and windows and covering or washing of fruit and other articles of food are of prime importance but the war should be waged on the primary causes. The common house-fly has become such a well-recognized carrier of infection that its destruction should interest not only health officers and boards of health, but progressive physicians wherever located.

CONTINUING THE QUOTATION FROM "A DISCOURSE OF THE WHOLE ART OF SURGERY," PUBLISHED IN 1654.

The Chapter on "Humors" is so interesting from a modern standpoint that we give it in full. It is as follows:

"What is an humor?

"It is a thin substance, into the which our nourishment first is converted; or it is a natural juice wherewith the body is entertained, nourished or preserved.

"Whereof proceedeth the humors?

"Of the juice or *Chile* which is made in the stomach, of the aliment we are nourished with, changed by the natural heat of the stomach and parts near thereof; thereafter brought by the veins Meseraikes to the liver, and maketh the four humors which differ in nature and kind.

"How many humors are there?

"There are four, which represent the four elements, as well by the substance, as qualities, whereof everything is made; *Galen* calleth them the elements of the body.

"Which are the four humors?

"The blood, the flegme, the choller, the melancholy.

"What is blood?

"It is an humor, hot, serious, of good consistence, red colored, sweet tasted, most necessary for nourishment of the parts of our body, which are hot and humid, engendered in the liver, retained in the veins, and is compared to the ayre, as saith *Galen*.

"What is flegme?

"It is a humor cold and humid, thin in consistence, white colored, when it is in the veins it nourisheth the parts cold and humid, it lubricateth the moving of the joints, and is compared to water.

"What is choller?

"It is a humor hot, and dry, of thin and subtle substance, black colored, bitter tasted, proper to nourish the parts hot, and dry, it is compared to the fire.

"What is melancholy?

"It is an humor cold and dry, thick in consistence, sour tasted, proper to nourish the parts that are cold and dry, and is compared to the earth, or winter.

"How many sorts of blood are there?

"Two, natural and unnatural.

"How many ways degenerateth the blood from the natural?

"Two ways: first by some alteration or transmutation of the substance, as when it becometh more gross and more subtle than it should be, or else by adussion, when the most subtle becometh in choller and the most gross in melancholy. Secondly, through unnatural proportion and evil mixture with the rest of the humors.

and then it taketh divers names; as for example, if with the blood there be abundance of *Pituita* such is called Flegmatick, if the choller exceed the chollerick; and so forth in the rest.

"How many sorts of flegme are there?

"Two in like manner natural and unnatural.

"How many kinds of *Pituita* unnatural are they?

"According to *Galen* there are four sorts; the first called *Vitrea* because the humor is like unto melted glass, it is old and proceedeth of gluttony and idleness, it provoketh to vomit, causeth great pain in the parts where it falleth, as on the teeth, and intestines.

"The second is called the sweet flegme, because in spitting of it, it seemeth sweet, it provoketh the body to sleep.

"The third is called bitter flegme, because in spitting it seemeth bitter, it is cold and maketh the body hungry.

"The fourth is salt flegme, it maketh the body dry and thirsty. There are some who make another kind called *Gipsei* because of the form and hardness it hath like lime called Gipsum. It is often in the joints and is reckoned under *Vitrea*.

"How many sorts of choller be there?

"Two in like manner, natural and unnatural.

"How many ways becometh the choller unnatural?

"Two ways, first when it spilleth, rotteth, and is burnt, and then it is called choller *Adust* by petrefaction. The other is made of the mixture of the other humors.

"Into how many kinds is it divided?

"In four, as saith *Galen*. The first is called *Vitellin* because of the color and thick substance. It is like the yolk of an egg, it is engendered in the liver and veins, when by the unnatural heat it doth dissipate and consume.

"The second, is called Verricuse, because this colour representeth a wart called *Verruca*.

"The third, is called *Eruginus*, because it is like the rust of brass or copper called *Aerugo*.

"The fourth, is called the blue choller. because it is blue like *Azur*. These last three humors, as saith *Galen*, are engendered in the stomach by vicious meats, and evil juice, which cannot be digested and converted into good juice.

"How many sorts of melancholy are there?

"Two, natural, and adult.

"How many kinds of unnatural or adult are there?

"Two, the first is that whereof cometh the humor melancholy which is like the lee of blood when it is very hot and adult; or by some hot fever, that the blood doth putrify, as saith *Avicen*, and differeth from the natural melancholy, as the dregs of wine burnt, from the unburnt. *Galen* saith, that humors which is like the lees of wine, when it becometh most hot, it engendereth an humor against nature called *Atra bilis*, of the which no beast can taste.

"Knowing these four humors and their generations, we must know in like manner, that in our bodies there is concoction: therefore tell me how many concoctions are there?

"There are three, as saith *Johannes Bacchanellus*. The first is made in the stomach, which converteth the meat we eat into a substance called *Chile*, in the which the four humors are not, but potentially. The second is done in the liver, which maketh of the *Chile* the mass sanguinary, as saith *Galen*. The third is made through all the body, of which are engendered the four humidities, which the Arabians call humors nourishing, or elementaries, as saith *Avicen*. The first hath no name, and is thought to be the humor which droppeth from the mouth of the vein. The second is called the *ros*, the which after it is drunken into the substance of the body, it maketh it humid, whereof it taketh the name. The third is called *Cambium*. The fourth is called *Gluten*, and is the proper humiditie of the similar parts.

"Have not these humors a certain time in which they reign more than other in man's body?

"Yes, indeed, for the blood reigneth in the morning from three hours until nine; in like manner in the spring time the choller from nine in the morning until three in the afternoon, as in summer; the flegme from three in the afternoon until nine at night, as in autumn; the melancholick, from nine at night until three in the morning, like as in winter, and this is the opinion of *Hippocrates* and *Galen* as touching humors. Such things being well understood, ye may know what humors reigneth in the sick, and what time he shall be most grieved."

The discourse on "Members and Parts" is as follows:

"What call you members or Parts?

"*Avicen* speaking of members saith, there are bodies ingendered of the first commition of humors.

"How many sorts of members are there?

"Five, of the which the first is called principals. The second, are members that serve the principal members. The third, are members that neither govern nor are governed by others, but by their own proper virtues. The fourth, are members which have proper virtues of themselves and also of others. The fifth, is called members excrementals, and not proper members, as others.

"How many principal members are there?

"Amongst the parts of the human body there are found four, which are most chief and principal, to wit, the brains, the heart, the liver and the testicles. The first three are called principals, because by them all the body is governed, and without them men cannot live. The fourth, which are the testicles, is called principal, because without them men cannot be procreated, saith *Galen*.

"Which are they which serve the principal members?

"The nerves serve the brains; the arteries the heart; the instrument spermatic, the testicles; by the nerves the spirit *Animal* is carried through all the body; the spirit Vital is carried by the arteries; the veins serve to carry the blood through all the body, as also to bring the *Chile* to the liver; the instruments spermatic for the bringing and casting forth of the seed.

"Which are the members which neither governs, nor are governed of others?

"The bones, the cartilages, membranes, glands, tendons, ligaments, fat, simple flesh, and so forth.

"Which are they that have proper virtue of themselves, and also of others?

"The belly, the kidneys, matrix.

"Which are the members called excrementous?

"The nails, and the hair.

"Are the members no otherwise divided?

"They are divided into two parts, similars and dissimilars.

"Which are the parts similar?

"The bones, nerves, flesh, and so forth, which are so called, because the least part of them hath the same name that the whole hath.

"Which are the parts dissimilar?

"The ear, eye, leg, hand and foot, and so forth.

"Why are they called dissimilars?

"Because when they are divided, they lose the name of the whole, as the membranes of the brains are not called brains, nor the membranes of the eye, the eye; and so forth in other dissimilar parts."

The chapters on "Virtues" and "Spirits" are short, so we quote them entire:

"What call you virtue?

"They are cause whereof procedeth the actions or powers, as saith *Galen*.

"How many virtues or faculties are there?

"Three; to wit, animal, vital, and natural, which have a certain sympathy one with another, for if one be hurt, all the rest suffer with it.

"What is animal?

"It is that which cometh from the brains, and sendeth the sense and moving through all the body by the nerves.

"How many sorts of virtues animal are there?

"Three; to wit, motive, sensitive, and principal.

"Wherein consisteth the virtue motive?

"In the instruments that move voluntary, as the muscles and nerves.

"Wherein cometh the virtue sensitive?

"In the senses external and internal.

"Into how many parts is the virtue sensitive external divided?

"Into five; seeing, hearing, tasting, smelling and feeling.

"What is the virtue sensitive interior?

"It is a virtue that correspondeth to the five external virtues by one organ only, and therefore is called sense common.

"Wherein consisteth the virtue principal?

"In imagination, reasoning and remembering.

"May those virtues be divided severally one from another?

"Yes, because one may be offended without another, which showeth them to have divers seats in the brain particularly.

"What is the virtue vital?

"It is that which carrieth life through all the body.

"How many sorts of virtues vital are they?

"Two; to wit, virtue vital active, that is in doing operations; and virtue vital passive in suffering operations.

"What is the virtue active?

"They are those virtues which dilateth the heart, and arteries, as chanceth in mirth and love.

"What is virtue passive?

"They are those virtues which constrain and bind the arteries and heart, as happeneth in melancholy, sadness and revenge.

"What is virtue natural?

"It is that which cometh from the liver and sendeth the nourishment through all the body.

"Into how many parts is it divided?

"Into four, the first, in attraction of things proper; the second, in retaining that which is drawn; the third, digesting that which is refrained; the fourth, repeating that which is hurtful and offensive.

"Do all these virtues do their operations at once?

"No; for first attraction is made, then retained until perfect digestion be made; lastly, virtue repulsive, casteth forth all things hurtful to nature."

"SPIRITS."

"What are spirits?

"They are a substance subtle of our body, bred of the part most pure and thin, of the blood sent through all the body, to the effect the members may do their proper actions.

"In what part of our bodies abound they most?

"As saith *Andreas de Lorrain,* they abound in the heart and arteries, in the brains and nerves.

"How many sorts of spirits are there?

"Three animal, vital, and natural.

"What is the spirit animal?

"It is that which remaineth in the brains, of which a great part is sent to the eyes, by the nerves optics, some to the ears, and divers other parts, but most to the eyes; therefore those who have lost their sight, have their other virtues more strong, the which caused *Democritus* and other philosophers to put out their eyes, to the end their understanding might be more clear.

"Is the spirit animal brought through all the nerves substantially?

"No, but only by the nerves optics, because they have manifest hollowness and not the rest.

"What is the spirit vital?

"It is that which is in the heart and arteries, and is made of the evaporation of the blood, and of the air, labored in the lights by the force of vital heat, and thereafter is diffused through the members for the conservation of the natural heat.

"What is the spirit natural?

"It is that which is engendered in the liver and veins, and there remaineth while the liver maketh the blood and other natural operations. The use of it is to help the concoction and there be four things which be annexed to those naturals, which are age, color, figure and kind."

NEWS ITEMS.

Preparations are being made at Hanover for a reunion of all the medical alumni of Dartmouth College. The exercises will cover a period of three or four days. One of the interesting features will be a lecture on chemistry by Prof. E. J. Bartlett which will be reproduced, with the old apparatus used, as given by Dr. Nathan Smith, founder of the medical department one hundred and twenty years ago.

The annual banquet of the New York Alumni Association of the University of Vermont was recently held at Delmonico's, with an attendance of about 100. The meeting and the addresses were mainly in memory of the late Dr. Buckham, the speaker of the evening, D. P. Kingsley, paying a glowing tribute to the life and work of the dead president. President Egbert J. Armstrong was in the chair and there were also present at the speakers' board Acting President Elias Lyman, Dr. Tinkham, Professor Perkins, Professor Kirby Smith of Johns Hopkins, Professor J. R. Wheeler of Columbia, Henry Holt and others. Prof. John Greer Hibben of Princeton University made an address of amity as the representative of a sister college. The collection of half a million dollars toward the endowment fund was announced, and there was much enthusiasm over the prospects of the university under the new head soon to be selected.

There was a meeting of the New England Branch of the American Urological Association on Tuesday, March 7th, at the Boston Medical Library, at 8.15 p. m., with the following programme: 1. Demonstration of patients, specimens or instruments, and the reports of cases; 2. Paper, "Suprapubic Intraurethral Enucleation of the Prostate," Dr. J. Bentley Squier, of New York; discussion opened by Drs. P. Thorndike, B. Tenney, F. B. Lund, A. L. Chute and H. Cabot.

Vermont graduates in southern California recently formed a permanent organization to be known as the "University of Vermont Alumni Association of Southern California," with the following officers: President, Hon. Julian Phelps, '64, Hollywood, Cal.; first vice-president, Allen P. Nichols, ex-'89, Pomona, Cal.; second vice-president, John A. Goodrich, '93, Pasadena, Cal.; secretary and treasurer, Henry O. Wheeler, Jr., '04, Los Angeles, Cal. This association was formed directly following the last monthly luncheon of the New England College Club of southern California, at which meeting the principal address was delivered by Warren H. Landon, D. D., a graduate of the University of Vermont, in the class of 1874, and now president of the San Francisco Theological Seminary, who spoke upon the subject of "Oberammergau and the Passion Play." Dr. Landon's address was listened to with much interest and close attention. Directly following the meeting the University of Vermont men gathered together and effected their permanent organization and they will have a University of Vermont banquet in the early part of March. Immediately after the official organization a large and handsomely framed engraving of the campus and college buildings of the University of Vermont was presented to the University Club of Los Angeles, bearing a brass plate with the following inscription

"University of Vermont
presented by
The University of Vermont Alumni Association
of Southern California."

There is a bill before the New Hampshire State Legislature appropriating fifteen thousand dollars for the addition of a separate building to contain two wards for tubercular patients at Hillsboro County Hospital, Grasmere. This

is one of the finest country hospitals in New England.

Dr. C. G. Abell of Enosburg Falls was thrown on the ice from his sleigh near the crossing east of North Sheldon on the 22nd of February.

Dr. W. C. Blake has removed from Lyndon, Vt., to South Bellingham, Mass.

Dr. T. E. Larner, formerly of Hinesburg, Vt., has just located in Hardwick, Vt.

The National Confederation of State Medical Examining and Licensing Boards held its twenty-first annual convention at Chicago, Illinois, Tuesday, February 28th, 1911.

Dr. J. B. Hall has returned to Franklin, Vt., after a short though successful stay in St. Albans.

Dr. F. A. Petty, who has been practicing in Waterbury, Vt., for the past year, has sold his practice to Dr. H. D. Hopkins of Jericho Center and returned to Fairfax. Jericho Center is now without a physician.

The American Medical Association will meet in Los Angeles June 27th to 30th inclusive.

The *Medical Bulletin* of the University of Pennsylvania has ceased publication after an existence of twenty-three years. It was a monthly publication and was circulated largely among medical alumni of the university.

Fifteen cases of diphtheria with three deaths have recently been reported at Winthrop, Mass., and in consequence the public schools of that town have been indefinitely closed.

A bill was introduced into the New York State Legislature on March 24th requiring the Board of Education of the City of New York to furnish free eye-glasses or spectacles to pupils in the public schools upon certificates from the principals of the schools that such glasses are needed. The Board of Estimate is required by the bill to appropriate at least $15,000 for this purpose.

Dr. B. L. Arms, Boston City Board of Health Laboratory, and E. M. Wade, draw the following conclusions in a paper appearing in the *Journal of the American Medical Association:* "Clinical diphtheria is caused by virulent diphtheria bacilli. As a rule, following clinical diphtheria, the organisms retain their virulence as long as they persist. As a rule, virulent and avirulent bacilli are not found in the same case, but, as these cases do occur, several strains should be tested before they are reported non-virulent. In diphtheria outbreaks a large percentage of the "carriers" harbor virulent organisms, although such carriers may develop no symptoms whatever. Cultures should be taken from all contacts before terminating quarantine in all cases of diphtheria.

The wives of the members of the Minneapolis Medical Association, Hennepin County, have formed a woman's auxiliary society, holding annual meetings.

Plans for the new bacteriological laboratory in the city hall, Toronto, were passed by the board of control, March 22nd, and an appropriation of $9,000 was made to cover the cost of construction.

Dr. J. E. Willis, Somersworth, N. H., has sold his practice to Dr. D. B. Mayo of Island Pond, Vermont. Dr. Willis goes to Worcester, Mass.

Dr. D. G. Underwood of Bradford, N. H., has sold his property to Dr. Clifford Howland and moved to Hingham, Mass.

Dr. J. F. Morrill has sold his residence and practice in Warner, N. H., and gone to Northwood Center, N. H.

Dr. George H. Saltmarsh has just been elected mayor of Laconia, N. H.

Dr. T. J. Doherty has just been elected mayor of Somersworth, N. H., for the third time.

Dr. Charles Charest, formerly of Derry, N. H., is now located in Nashua, N. H.

Dr. C. E. Congdon of Nashua, N. H., has given up practice to take in selling agency of a Swiss Motor, having illuminated hands and figures.

A new office has been created in Ohio by the State Board of Health. The epidemologist will take care of all epidemics and contagious diseases.

Dr. John H. Woodruff, Bowdoin, 1908, has located in Barre, Vt.

The Grace Hospital Corporation, Boston, Mass., which was formerly the Emergency

Hospital has been put into the hands of receivers by Judge Colt of the United States Court. The debts of the corporation amount to $27,000. The executors of Anna Preston Lincoln, who made a bequest to the hospital, were trusted by creditors.

At a recent meeting of the National Convention of Medical Examination and License Boards of the United States, made up of representatives of nearly every state in the union, Dr. W. Scott Nay of Underhill, Vt., was elected as one of the executive council of five, having direct charge over the affairs of the organization. At the meeting Vermont was represented by Dr. W. Scott Nay and Dr. E. B. Whitaker of the Vermont Board of License Censors, and Dr. H. C. Tinkham of the College of Medicine, University of Vermont.

In an action against a surgeon for negligence, the Supreme Court of Wisconsin decided that there could be no recovery unless it was reasonably probable that the patient would have lived had the surgeon treated her properly and this reasonable probability must be proved.

Recently in New York City a coroner physician performed an autopsy on a man named Hassard who had just been killed by an accident. The coroner cut out the spleen, which he found enlarged, and the heart and took them to his office to be preserved. The mother of Hassard demanded that these parts be returned for burial. The doctor refused and the mother sued for $25,000. The lower court dismissed the complaint and a higher court has ordered a new trial, declaring that the mother had a legal right to the body of her son in the condition it was in at the time of his death and that no one had a right to mutilate the body without her consent. The doctor kept these parts because it was an interesting case. The court declared the physician had no right to perform an autopsy without the authority from the coroner.

On December 18th, 1910, there took place in the large auditorium of the university of Berlin, a celebration in memory of Robert Koch. Once more there was conjured up, in the touching eulogy of Koch's successor, Gaffky, the portrait of the never-to-be-forgotten investigator, who has found his last resting place at the spot where he had carried on his work. His ashes are inurned in the western wing of the Institute for Infectious Diseases. This mode of interment is an unusual one in scientific circles. A dim antechamber with its black-covered oaken walls prepares the visitor for the mournful memorial beyond whose walls are covered with handsome cabinets containing mementos of Koch and the golden book of the Robert Koch foundation. The walls are of yellow Italian marble, divided off by columns of blue and gray, while the floors consist of white and variegated black and green marble. The light enters the room dimly through a trefoil window of blue glass and bronze frame. The sole furnishings are a marble bench beneath the window and two antique vases suspended from the ceiling. Upon one wall are engraved in dark letters the list of Koch's achievements, beginning with the discovery of the anthrax bacillus in 1876. In the center of the opposite wall there is an excellent relief portrait of Koch executed in white marble. Beneath this a marble tablet conceals the ashes which are buried in the wall. Thus an eloquent tribute has been erected for the eternal rest of the investigator who during life knew no rest.

Sixteen city blocks under strict quarantine, five hospitals closed to the public and seventy-six cases of diphtheria up to February 28th, have made the epidemic of the disease in Baltimore appear serious. The disease was first reported in the Johns Hopkins Hospital, where also the first death, that of a child, occurred.

The House of Representatives on February 27th passed a bill enlarging the powers of the Public Health and Marine Hospital Service and changing the name to Public Health Service. Among other things the bill authorizes the investigation of water supplies and sewage disposal and the compilation of data on these subjects.

Mrs. Whitelaw Reid has made an additional gift of $60,000 to the Red Cross Guild Hospital of San Mateo, Cal., which she established in memory of her parents, Mr. and Mrs. D. O. Mills. The money will be used in constructing additions to the hospital buildings.

OBITUARY.

Charles Salter Wheeler, M. D., University of Vermont, 1879, a member of the American Medical Association, and for several years a member of the State Pension Board, died at his home in Flushing, Michigan, March 10th, from cirrhosis of the liver, aged fifty-four years.

Edwin Samuel Howe, M. D., University of Vermont, 1880, formerly supervisor of Blackbrook, New York, died at his home in Ausable Forks, New York, March 4th, from heart disease, aged fifty-five years.

Dr. E. E. Whitaker of Newport, died in a hospital at Montreal Saturday, March 25th. Dr. Whitaker was born in Lawrence, Mass., in 1848. He was graduated from Long Island College, Brooklyn, N. Y., and Hahnemann College, Chicago. After practicing at Windsor, Dr. Whitaker went to Newport in 1881, and enjoyed an extensive practice. For several years he had been health officer and held positions on the board of school directors and village trustees. He had been president of the Vermont State Homeopathic Medical Society as well as holding other minor offices in the same body.

BOOK REVIEWS.

Diagnosis and Treatment of Diseases of Women.—By Harry Sturgeon Crossen, M. D. Second edition, revised and enlarged. With seven hundred and forty-four engravings. St. Louis. C. V. Mosby Company, 1910.

As the title indicates this is a work on diagnosis and treatment. It discusses gynecological conditions which need operation as well as those conditions which require medical treatment only, and in addition to the general treatment it gives the post-operative treatment for surgical cases.

The text is brief but comprehensive. The book is profusely illustrated. There are 170 illustrations from original photographs beside the illustrations taken from other works on the subject. The book is not a treatise on gynecological diseases but rather a discussion of the diagnosis and treatment of the more common gynecological conditions. It meets the requirements of the student and general practitioner very well indeed.

The Practice of Surgery.—By James G. Mumford, M. D., Instructor in Surgery in the Harvard Medical School. Octavo of 1015 pages, with 682 illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth $7.00 net; half morocco, $8.50 net.

This is an exceedingly good book on surgery. It is unique in that it departs from the more common systematic discussion of surgical conditions and takes up these conditions more in the order of their frequency of appearance or surgical importance. It is not a text-book of surgery in the old sense—a discussion of all surgical conditions—but rather a careful discussion of the most important parts of surgery, the conditions which are seen more frequently. For this reason if for no other the book should commend itself to the student, the practitioner and the surgeon alike.

The book is well written and gives the latest and best ideas of surgery. The illustrations are exceedingly good and altogether the work is a most valuable addition to surgical literature.

Physical Examination and Diagnostic Anatomy.—By Charles B. Slade, M. D., Instructor in Physical Diagnosis, University and Bellevue Hospital Medical College, New York. 12mo. of 146 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $1.25 net.

This little book contains more practical knowledge than many more pretentious volumes.

The general rules for the examination of patients are admirable and cannot fail to be of great service to the student and may be worth while for the physician, they cover the subjects of inspection of patients, palpation, percussion and auscultation.

The sections on surface markings, particularly those on the thorax and abdomen are good. The book is to the point, it tells what to do in the examination of patients and how to do it to make a satisfactory diagnosis.

A Treatise on Diseases of the Skin.—For the use of advanced students and practitioners, by Henry W. Stelwagon, M. D., Ph. D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Sixth edition, revised. Handsome octavo of 1195 pages, with 289 text-illustrations, and 34 full-page colored and half-tone plates. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $6.00 net; half morocco, $7.50 net.

The fact that the author has brought out this sixth edition so soon after the fifth is a reasonable assurance that the book is up to date. The diseases of the skin incident to the tropics as well as the more recent diseases of the skin in this country, as pellagra, are discussed fully. In addition to much that is new the text has been carefully revised, the newer ideas incorporated and much that was useless eliminated. The book is concise, reliable, readable.

Case Histories in Pediatrics.—By Dr. John Lovett Morse. Octavo, 320 pages. Illustrated. Price, $3.00. W. M. Leonard, Publisher, Boston, Mass.

This is something entirely new in medical literature for physicians. Case histories have been used in teaching for years; this is a compilation of one hundred case histories in Pediatrics for physicians arranged systematically so as to take up the study of diseases of children in a logical way. Each case not only includes the history of the disease but gives the full hospital record including physical examination, diagnosis, prognosis and treatment. It is an opportunity for physicians to take a post-graduate course in diseases of children at home.

A Treatise on Diseases of the Nose, Throat and Ear.—By William Lincoln Ballenger, M. D., Professor of Laryngology, Rhinology and Otology in the College of Physicians and Surgeons, Chicago. New (3rd) edition, thoroughly revised. Octavo, 983 pages, with 506 engravings, mostly original, and 22 plates. Cloth, $5.50 net. Lea & Febiger, Philadelphia and New York, 1911.

This book shows the evidence of most careful preparation; it is exhaustive, embracing all the most recent ideas of both American and European physicians. The illustrations are selected with the same care that marks the preparation of the book, many of them are entirely new in conception. The book is a complete and attractive treatise on the diseases of the nose, throat and ear.

The fact that it has gone through three editions in three years is a sufficient guarantee that it meets a real need for a work of this kind and that it is appreciated by physicians.

Dawn of the Fourth Era in Surgery and Other Short Articles.—By Robert T. Morris, M. D., Professor of Surgery, New York Post Gradute Medical School and Hospital. 12mo. of 145 pages. Philadelphia and London: W. B. Saunders Company, 1910. Artistically bound. $1.25 net.

This book is a collection of papers which have been read by Dr. Morris at different societies on a variety of surgical subjects.

Dr. Morris' style of writing is distinctly characteristic. His way of discussing things is decidedly his own, yet his philosophy in regard to surgery is sound and his writings are not only instructive but entertaining. Physicians who do not have reprints of these papers would do well to secure this compilation.

A Treatise on Diseases of the Eye.—By John E. Weeks, M. D., Professor of Ophthalmology in the University and Bellevue Hospital Medical College, New York. In one octavo volume of 944 pages, with 528 illustrations and 25 full-page plates. Cloth, $6.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

It evidently was the aim of the author to produce a book which should be comprehensive and complete and at the same time clear, concise, free from obsolete ideas and wordy descriptions, a book which should meet the various needs of student and practitioner.

This has been successfully done. It discusses the development and anatomy of the eye, diseases, infections, treatment, correction of defective vision, etc. The book is exceedingly well illustrated and makes a valuable addition to the literature of this subject.

A Text-Book of Obstetrics: Including Related Gynecologic Operations.—By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. Sixth Revised Edition. Octavo of 992 pages, with 847 illustrations, 43 of them in colors. Philadelphia and London: W. B. Saunders Co., 1909. Cloth, $5.00 net; Half Morocco, $6.50 net.

The author has departed from some of the old legends in this sixth edition in that Gynecology has been added to Obstetrics. In view of the fact that practically all gynecological conditions are or may be the result of child-bearing, it is logical that these sequelae of labor be discussed with the student in connection with the management of labor, and other conditions incident to child-bearing. This part of the book has been written in the same clear, forceful style that has characterized the previous editions. The work is profusely illustrated, especially the subject of gynecology, each step in the various

gynecological operations being clearly shown. The scope and character of this edition makes the work more attractive and useful to students and practitioners alike.

Vomiting in Infants.—E. Pritchard (*Clin. Jour.*, Feb. 2, 1910) finds this symptom more often the deferred result of some initial mistake in feeding than due to the method of feeding. The vomiting habit is very easily acquired; it becomes a sensitive and insistent automatic reflex to reject food of whatever nature. Infants that have this habit from injudicious feeding methods during the time that the nerve centres concerned are plastic and impressionable are best treated by changes in the diet or by full doses of bismuth and soda. The only scientific method of treatment is to break the automatic nature of the habit by temporarily exhausting the center or by dulling its sensibility to stimuli which reach it through the stomach. Chloral, bromides and chloretone are here indicated. Immediately the habit is broken the medicament is suspended. Pritchard has lately succeeded in exhausting the center by means of a harmless emetic such as wine of ipecac or carbonate of ammonia, half an hour before feeding. After the violent stimulus of the emetic the stomach fails to respond by vomiting to the milder stimulus of food; in using this method it is essential that other causes of vomiting, apart from habit, be excluded.—*Medical Times.*

Doctors and Nurses Wanted in the Missionary Field.—The Student Volunteer Movement for Foreign Missions announces that more than fifty physicians, both men and women, and twenty-six trained nurses are needed to fill important posts in the Orient and other foreign countries. Travelling expenses and comfortable support are provided by the missionary societies making the appointments.

Particulars regarding the work, qualifications, terms, etc., may be secured from Mr. W. B. Smith, Acting Candidate Secretary, 125 East 27th Street, New York.

Chloroform Anaesthesia.—The ultimate conclusions, as regards doses, of the British Medical Association have been published. They are, that a one per cent. vapor is generally insufficient to induce surgical anæsthesia in an adult, at all events within the limits of time ordinarily available; that a two per cent. vapor of chloroform in air is sufficient to induce full surgical anæsthesia; that in pathlogical conditions, such as poor blood conditions, some diatheses, and grave pathological states, the safety dose or percentage is below two and must be determined in each case; that the dose for the maintenance of anæsthesia is of as much importance as that of the induction period, and that the failure to recognize this has caused many deaths, and constantly delays convalescence, and that while no definite limit of safety can be fixed for this dose, it is in most cases one per cent. at first, and must be lowered as time goes on.—*Glasgow Medical Journal*, 1910.

Census Bureau's Effort Toward Prevention of Infantile Mortality.

An interesting statement regarding the establishment by the Census Bureau of a provisional birth registration area in the United States, for the purpose of compiling statistics enabling the scientific study and prevention of infantile mortality, has been submitted to Census director Durand by Dr. Cressy L. Wilbur, chief statistician for vital statistics in the Census Bureau, who is directing the work.

Acting on the principle that vital statistics are the foundation of scientific public-health work, the Census Bureau, through Dr. Wilbur, began in 1908 the collection of statistics of births, with a view of establishing a provisional birth registration area. This work has steadily progressed until at the present time the tentative area includes the New England States, and Pennsylvania, Michigan, and the District of Columbia, although the latter, which is coextensive with Washington City, whose laws are made by the direct action of Congress, does not register all its births. In fact, it is stated, the only state in which a determined effort has been made to enforce thoroughly the registration of births,

as the law provides, with prosecution and infliction of the penalty of the law in delinquent cases, is Pennsylvania.

FOREIGN NATIONS FAR AHEAD.

The statement notes that it may be surprising and even humiliating to the average American citizen to learn that this country is far behind most foreign nations in regard to vital statistics, and that there is not a single state, nor even a single city, in the entire United States which possesses a complete registration of births. Boston claims to have the best, but only 96 per cent complete, while probably the most worthless registration of births among all the cities of the entire world, it is stated, may be claimed by Baltimore, Chicago, and New Orleans.

Although foreign countries register practically 100 per cent of their births, it was decided by the Census Bureau, when it began to establish the provisional registration area, that the high standard abroad could not be maintained in the United States. In fact, for the states whose vital statistics and records are now reported to the Census Bureau, the minimum accuracy accepted is 90 per cent.

The transcripts of the original birth registration records in the states in the provisional area have been received at the Census Bureau, and the work of compiling the figures is being pushed to completion. Meanwhile, the campaign to arouse public interest in the matter of the complete registration of births, with the especial object of prevention of infantile mortality, is being actively and widely waged. Owing to the fact that, with the exception of the District of Columbia and the territories, all laws governing vital statistics are state enactments, and not national in origin, the task of securing uniformity in methods and thoroughness in enforcement is most difficult. It is only by cooperating with state medical associations and state boards of health that any progress is being made. The Census Bureau can and does act only upon the request and with the full cooperation of the state and sanitary officials.

THE BILL BEFORE CONGRESS.

At the present time there is a bill before Congress providing for the better registration of births in the District of Columbia. Such legislation for the District should be a model and standard for similar bills to be presented to legislatures in other states. National associations have been formed for the purpose of arousing public interest in a campaign against the preventable causes of death, especially the very high mortality of infants. Many leading women's clubs are also engaged in an educational movement along these lines.

The statement adds that what is chiefly needed in planning and conducting this work are complete and accurate statistics of infantile mortality for individual cities, rural districts, and states, and for the nation as a whole. The accurate statement of infantile mortality requires the complete and satisfactory registration of both births and deaths. The statistical definition of the term "infantile mortality" is "the ratio of the number of deaths of infants under 1 year of age, exclusive of stillborn, to 1,000 children born alive." Reference is made to a recent report by the Census Committee on the registration of births, in which it is stated:

"Talk about registration of births in the United States! Why, for not more than one-half (55.3 per cent) of the total population of this country is there even fairly accurate registration of deaths alone. No other civilized nation on the face of the earth so neglects its duty in this respect or holds the vital records of its people in such low esteem. America should not mean barbarity in its relation to infantile life."

THE PRESCRIBED REMEDY.

The remedy proposed for this condition of affairs should provide, first, for the enactment of adequate laws for the complete registration of births and deaths in all states that do not at present possess them, and, second, for the thorough enforcement of the present laws and of new laws when enacted. It is stated that the principles upon which successful registration law must be constructed in this country have been thoroughly settled in the light of practical experience, and a model law in conformity with such principles has been drawn up and indorsed by medical and public-health associations. This law has been put in operation in several states and is giving most excellent and satisfactory results where its provisions are really enforced, but in the great majority of states the compulsory enforcement of the provisions of the laws for the registration of births, by means of the

penalties provided for noncompliance, is practically a dead letter and is mainly responsible for the worthless character of the United States statistics of births and the utter absence of any reliable figures for infantile mortality. In fact, no reliable data of infantile mortality can be compiled until there is an accurate registration of births.

It is estimated that in the United States the deaths of babies less than a year old constitute one-fifth of the annual total mortality, and of these deaths at least 125,000 need not have occurred if modern hygiene, as it is known to-day, were practiced universally.

The Bureau of the Census has been continually laboring since its permanent organization in 1902 for better vital statistics, which means as a very important part thereof registration of infant mortality. It is urged that the attack upon infant mortality begins with the diarrheal and intestinal diseases of infancy. The prevention of these diseases, which are preeminently "filth diseases," will wipe out one-fourth of the total number of deaths of babies under 2 years of age.

The accurate collection, tabulation, and analysis of records of births, deaths, stillbirths, marriages, divorces, and sickness may be said to constitute the bookkeeping of humanity. It is fundamental to the practical application of hygiene to secure higher efficiency, longer duration of life, and fuller measure of happiness.

Low Death Rate Continues in 1910.

shown in census bureau's provisional statement for the year.

Census Director Durand has received from Dr. Cressy L. Wilbur, chief statistician for vital statistics in the Bureau of the Census, a provisional statement of mortality in the death registration area of the United States for the year 1910. It is estimated that the death rate is but little greater than the phenomenally low rate for 1909.

The Census Bureau receives monthly returns of deaths from registration states and certain cities in nonregistration states, these constituting the death registration area. This area comprises about one-half of the total population of the United States.

While the returns are not all in for the year 1910, under the system of monthly reports which has been carried out by the Census Bureau for some time so large a proportion of the returns has been received that an approximate provisional estimate of the mortality of the registration area can be made, which will be subject to change when the complete data have been received.

returns from the registration area.

The bureau received up to January 10, 1911, transcripts of 611,639 deaths that occurred in the registration area during the year 1910, of which number 518,404 were from the registration states.

The total number of deaths reported for the year 1909 was 732,538, of which 630,057 were from the registration states.

In the annual bulletin for 1909 the death rate for the registration area was presented as based on post-censal estimates derived from the rate of growth according to previous censuses and was found to be 15.0 per 1,000 population. This rate, as stated at that time, was the lowest in the history of the United States. It is now found by means of revised estimates, based on the returns of population since available, that the rate for 1909 was even lower, being 14.4 per 1,000.

If the returns not yet received for 1910 for certain areas prove to be substantially the same as those for the corresponding months of the previous year, then the total number of deaths that will be reported from the registration area for 1910 will be about 780,000, and for the registration states, 667,000. These numbers correspond to the death rates of 15.0 for the entire registration area and of 14.8 for the registration states, so that the mortality of the entire area, and of the registration states, separately, for 1910 is slightly greater than that for the preceding year, although still a remarkably favorable showing.

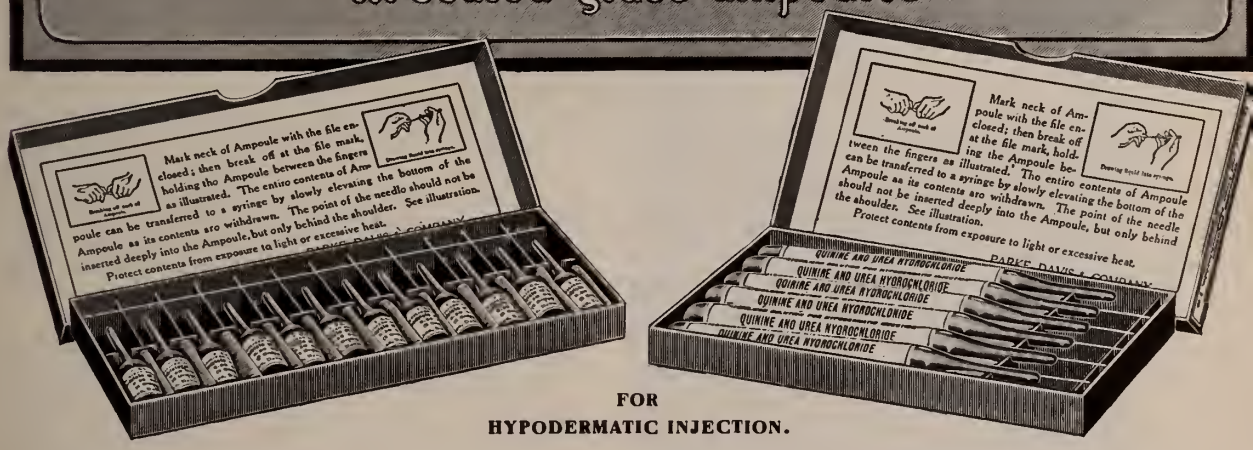
No Place For It.—An Irishman visited a tuberculosis exhibit, where lungs in both healthy and diseased conditions were displayed preserved in glass jars. After carefully studying one marked "Cured tuberculosis lung," he turned to the physician and said:

"Perhaps it's because Oi'm Irish, but if ye cured th' patient, how could ye have his lung in a bottle?"—*Lippincott's.*

Sterilized Solutions

Cacodylate of Sodium and Quinine and Urea Hydrochloride

In sealed glass ampoules



FOR
HYPODERMATIC INJECTION.

CACODYLATE OF SODIUM, an organic arsenical product, is offered as a superior substitute for the ordinary inorganic arsenical preparations. It has been administered with striking success in the treatment of

Syphilis,

the best results following the use of comparatively large doses—2 to 4 grains—smaller doses, while serviceable in other diseases amenable to arsenic, being of little avail in syphilis.

The malarial cachexia, neurasthenia, certain diseases of the skin (as psoriasis), leukemia and Hodgkin's disease are also within the province of sodium cacodylate medication.

CACODYLATE OF SODIUM.

1 Cc. sealed glass ampoules, each containing ¾ grain of the salt, and 1 Cc. ampoules of 3 grains each, boxes of 12.

QUININE AND UREA HYDROCHLORIDE, withi a comparatively recent period, has come into extensiv use as a

Local Anesthetic,

taking the place, to a considerable extent, of cocaine, t which, being non-toxic even in large doses, it is prefera ble, especially for purposes of injection. Another ad vantage is its tendency to restrain or prevent hemorrhage It produces anesthesia that persists sometimes for hours- occasionally for days—a valuable feature in connectio with rectal and other operations that may be classed a painful. Minor surgery offers a wide field for this prep aration.

QUININE AND UREA HYDROCHLORIDE.

5 Cc. sealed glass ampoules, each containing 80 minims of a 1-per-cent. solution, boxes of 12.

The specification "P. D. & Co." will insure absolutely sterile solutions.

Parke, Davis & Company

Laboratories: Detroit, Mich.; Walkerville, Ont.; Hounslow, Eng.

Branches: New York, Chicago, St. Louis, Boston, Baltimore, New Orleans, Kansas City, Minneapolis; London, Eng Montreal, Que.; Sydney, N.S.W.; St. Petersburg, Russia; Bombay, India; Tokio, Japan; Buenos Aires, Argentina.

THERAPEUTIC NOTES.

HYSTERIA.—The manifestations of hysteria are so infinite in number that Tanner has well said, "Hysteria simulated almost every known disease." It so often exists without any pathological lesion and persists after cure of the lesion that the practitioner has no resource but the well known anti-spasmodics, anodyne and nerve tonics which should only be taken at his direction and which alone in many cases intervene to save the sufferer from too common resort to opiates. Here Neurosine, which contains no opium, morphine, chloral, or other habit forming drugs, gives prompt relief.

TO GUARD AGAINST THE INROADS OF DISEASE.—An excellent way to guard against the inroads of disease is to feed to the tissues nutritious elements which, when incorporated within them add greatly to their powers of resistance. For generations cod liver oil and the hypophosphites have been considered as leading "tissue-makers" and as combined in Cord. Ext. Ol. Morrhuae Comp. (Hagee) they have grown into still greater favor. Cordial of the Extract of Cod Liver Oil Compound (Hagee) charges the tissues with the very elements needed to resist disease processes and for this reason it has held the profession's favor these many years.

A BRONCHIAL SEDATIVE.—The need for a bronchial sedative in la grippe is frequently indicated, for the cough of this disease is not the least troublesome of its symptoms. Those using Pruni-Heroin (Wyttenbach) for irritations of the laryngeal, pharyngeal and bronchial mucosae have had demonstrated to their complete satisfaction that this agent is of marked utility in grippal coughs and that it may be administered with little fear of disappointment. It is a most efficient sedative to the air passages. For sample address Wyttenbach Chemical Co., Evansville, Ind.

A TRANQUILIZER IN THE PSYCHONEUROSES.—The progressive character of the average psychoneurosis —taking hysteria as a type—leading practically to chronic invalidism, is not the least of the reasons demanding well chosen therapeutic measures.

As a corrector of the unstable state of the nervous system wrongly called hysteria, Passiflora Incarnata (Daniel's Concentrated Tincture) is positively indicated and may be depended upon to produce the results expected of it. Its particular province of usefulness is in these very conditions and by reason of the results attending its administration, it has earned the name of the unexcelled nerve tranquilizer.

By sending your professional card to the Laboratory of John B. Daniel, Atlanta, Georgia, you will be supplied with a sample bottle of Passiflora Incarnata. (Daniel's Concentrated Tincture) without cost.

EXHIBITORS AT THE STATE SOCIETY MEETING.—The Hammond Typewriter Co., represented by W. S. Snow, has a small but excellent display on the west side of the hall. This machine is said to be especially well fitted for doctors' work. It is very modern and has many useful features, such as interchangeable type, open carriage ends, allowing any size of paper, and a uniform impression regardless of touch.

The Keasbey & Mattison Co., has a good display of its alkalithia products on the west side of the room. The display is well arranged and shows up to good advantage.

The Graves Publishing Co. of New York has a good exhibit of books. Its display, although small, is very well arranged and it is ably represented by C. B. MacHale. One book to which special attention is called by the company is "A Psychic Autobiography," by Amanda T. Jones.

The Kress & Owen Co. of New York, has a very good display in one corner of the hall, the exhibit consisting principally of its well known glycothymoline.

The Eskays Food Co. has a good display on the east side and is represented by Doctor Jones.

The F. H. Thomas Co., of Boston, which carries the largest assortment of physicians' and surgeons' supplies in the country, has a large exhibit of Victor electrical apparatus, Allison office furniture and Bausch and Lamb supplies. The company is represented by W. E. Birdsale and J. E. Clapp of Boston.

DURING THE COUGH SEASON.—For the relief of cough and its causative factor, the physician has in Pruni-Heroin (Wyttenbach) a most effective weapon. Its constituents are of marked benefit in bronchial and pneumonic inflammations, having been carefully chosen for this express purpose. In addition to these features, Pruni-Heroin (Wyttenbach) possesses soothing properties—a rasping cough promptly subsiding under its influence. In view of these virtues, it is the logical remedy in the coughs so frequently met with during the cough season. Samples and literature may be had by addressing the Wyttenbach Chemical Company, Evansville, Ind.

THE RESTLESSNESS AND SLEEPLESSNESS OF PNEUMONIA.—The relief of restlessness and sleeplessness of pneumonia calls for the use of a soporific that will not depress the heart, yet it must possess an effectiveness, otherwise its only influence will be to disturb the already suffering stomach.

The unusual value of PASSIFLORA INCARNATA (Daniel's Concentrated Tincture) as an agent of its class and its freedom from depressing effects, insure that no better agent than it can be chosen to allay the restlessness and sleeplessness of pneumonia. It has been demonstrated that every virtue of chloral and the bromides is to be found in PASSIFLORA (Daniel's) with none of their disadvantages. A sample may be had by addressing the Laboratory of John B. Daniel, Atlanta, Ga., if you have not already received a bottle.

SYPHILITIC DERELICTS.—The nervous distress of syphilitic derelicts, is not the least of their trials, and it is urgent that relief be afforded them. PASSIFLORA INCARNATA (Daniel's Concentrated Tincture) is meeting with great success in subduing syphilitic nervous manifestations, in many instances

being used conjointly with the usual anti-luetic treatment. Daniel's Passiflora has such a marked influence in these cases, and is so free from the usual untoward effects of bromides and chloral, that it is little wonder that it is forcing the latter from their former high positions in the therapeutics of nervous disorders. The reader, if a medical man, may receive a sample by addressing the Laboratory of John B. Daniel, Atlanta, Ga.

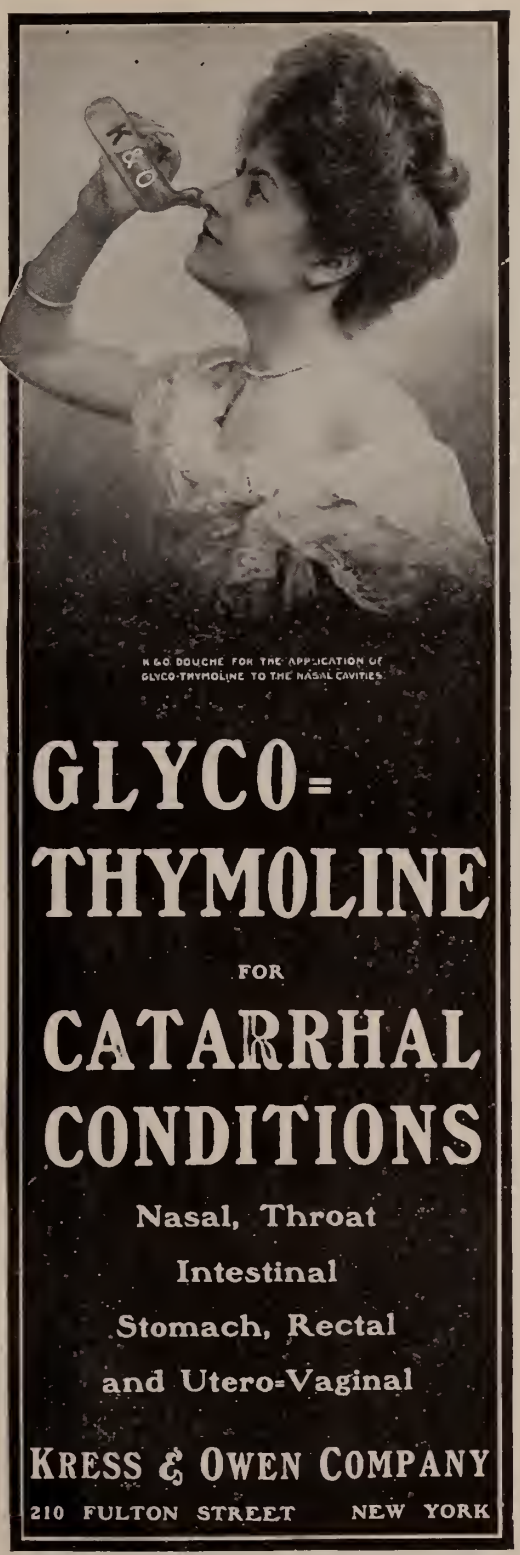
Forced Tissue Feeding.—To accomplish this, the logical plan is to adopt a food product of proven merit, one that is easily digested and which adds power to the tissue. NUTROMUL (Brown's Cotton Seed Oil Emulsion) does this as nothing else, and in all conditions of tissue waste and dissipated vitality, it is the food agent above all others. It feeds strength to debilitated structures and once more charges them with normal resistance. Cotton Seed Oil contains more nourishing qualities than any other product at the profession's command. An emulsion of it, fortified by the hypophosphites, as represented by NUTROMUL, is worthy every physician's attention. The Nottoc Laboratory, Atlanta, Georgia, will gladly furnish any reputable medical man with liberal samples upon request.

Tedious Convalescence.—The tediousness of convalescence of la grippe and pneumonia shows, with what force the disease has attacked the tissues of the body and to what low ebb it has brought the vital powers. If convalescence is to be shortened and the ability of the body to resist tuberculous processes is to be added to, resort must must be had to such agents as will feed the tissues and make blood. For this purpose Cord. Ext. Ol. Morrhuae Comp. (Hagee) holds high favor with the profession.

A palatable preparation of cod liver oil to which are added the hypophosphites, Hagee's Cordial of the Extract of Cod Liver Oil Compound is not surpassed as a tissue food.

A Valuable Local Anesthetic in Ano-rectal Surgery.—In view of current interest in Quinine and Urea Hydrochloride as a local anesthetic, a report of Dr. Louis J. Hirschman, of Detroit, which appeared in a recent number of the Cincinnati *Lancet-Clinic*, has peculiar pertinency. Dr. Hirschman reports a total of 102 operations, comprising acute thrombotic hemorrhoids, internal hemorrhoids, interno-external hemorrhoids, external hemorrhoids, fistula in ano, perineal abscess, fissure in ano, excision of scar tissue, Ball's operation (pruritus ani), hypertrophied papillae, and inflamed Morgagnian crypts. Perfect results were obtained in every case so far as operative anesthesia was concerned, and in but seven cases was there any post-operative pain. The doctor uses the one-per-cent. solution in all of his cases of ano-rectal surgery when suturing of the skin is required. The technique of administration is the same as that with weak solutions of cocaine and encaine.

Dr. Hirschman believes that the substitution of Quinine and Urea Hydrochloride for any of the other anesthetic salts hitherto employed will prove em-



inently satisfactory in all cases of ano-rectal surgery in which suturing of the integument is not required. He sums up its advantages as follows; it is soluble in water; it can be sterilized; it is equal to cocaine in anesthetic power; it is absolutely non-toxic; it has a pronounced hemostatic action; it produces persistent anesthesia; it is inexpensive.

Quinine and Urea Hydrochloride, in one-per-cent. sterilized solution, is supplied by Parke, Davis & Co., in sealed glass ampoules of five cubic centimeters capacity. An ampoule is opened by breaking off the tip, when the hypodermic needle can be inserted in the neck of the ampoule and the solution drawn into the syringe. Parke, Davis & Co, by the way, issue a sixteen-page brochure on "Local Anesthesia with Quinine and Urea Hydrochloride," which should be in the hands of every physician and surgeon. The pamphlet details fully the uses of the new anesthetic, explains the technique of administration, and contains some valuable case reports. A copy may be obtained by writing the company at its home offices in Detroit.

Tonsillitis—By S. E. Douglas, M. D., Adams, N. Y.—Tonsillitis is one of the most painful and distressing acute diseases one is called upon to treat. The patient wants to be relieved in a very short time and still feels about as sick as he thinks he is able to endure. Now these cases, if treatment is begun at once and kept up in a good faithful way, can be cut short of the regular course. When the symptoms begin, if the following plan is carried out, I think the patient and the physician will both feel greatly encouraged. Calomel in divided doses followed in a few hours by a saline is of the greatest importance, for a system filled with toxines can make little headway against an acute infection. Now, for local treatment Glyco-Thymoline has given me the best results. It not only cleanses the mucous membrane but relieves the pain and makes swallowing much easier. One of the principal points about using Glyco-Thymoline is to have the solution as hot as can be used.

The following case will show the results given with Glyco-Thymoline:

Patient, age 22. Number of previous attacks which lasted about three weeks. The patient was taken with a chill, followed by fever and pain in the throat which was very severe on trying to swallow. Examination showed a greatly inflamed throat with tonsils swollen and covered with yellow patches. The uvula was swollen and stuck to one of the tonsils. Treatment—Gave a catharic and used Glyco-Thymoline in a proportion of one part to three of hot water for a gargle and also full strength in an atomizer, used every two or three hours. In three days patient was feeling much better and could eat with comfort.

Sodium Cacodylate in Syphylis.—Few articles appearing in the medical press in recent months have attracted more attention and comment than that by Dr. John B. Murphy, of Chicago, published in the Journal of the American Medical Association of September 24, 1910, in which the writer detailed the striking results obtained by him through the hypodermic administration of Sodium Cacodylate in the treatment of syphilis. Physicians who have not seen the article in question will be interested in the following abstract, as published in *Therapeutic Notes:*

"Administered in doses of ½ to 2 grains hypodermically, its action was prompt and efficacious. Chancres became clean ulcers without induration in forty-eight hours; mucous patches cleared up in twenty-four to forty-eight hours; ulcers of the palate and pharynx healed in three to six days. In a child nine months old ¼ grain injected into the pectoral muscle caused a papillary syphilide to disappear in forty-eight hours. Two 2-grain doses, twenty-four hours apart, completely relieved the pain of a patient who suffered from active gastric crises (luetic) which usually lasted three weeks. An advancing perforating ulcer of the palate, which had resisted injections of ¼ grain of mercuric bichloride daily, promptly yielded to Sodium Cacodylate, two injections of ¾ grain each. The ulcer was healed in six days.

"Dr. Murphy suggests that Sodium Cacodylate be employed in primary doses of 2 to 4 grains, depending on the size and strength of the patient, and not repeated within three or four days unless there are special indications for it."

Sodium Cacodylate, in sterile solution, is marketed by Parke, Davis & Co., in sealed glass ampoules containing ¾ grain and 3 grains, respectively, of the arsenic salt. In this connection it is proper to emphasize the importance of specifying a preparation that is known to be pure. Parke, Davis & Co. lay especial stress upon the purity of their product.

The New Local Anesthetic in Ampoule Form.—In consideration of the growing demand for Quinine and Urea Hydrochloride for local anesthesia, Parke, Davis & Co. are now marketing this valuable combination in convenient ampoule form, and the physician can procure it in one-per-cent. solution, absolutely sterile and ready for use. The ampoules contain 5 cc. of the solution each and are supplied to the trade in boxes of six.

Quinine and Urea Hydrochloride is being used in a great variety of operative procedures with pronounced success. As a local anesthetic it is held by many physicians to be superior to cocaine, a contention which would seem to have warrant in view of the fact that the preparation is not toxic even in large doses, that it tends to restrain or prevent hemorrhage, and that the anesthesia produced by it is persistent. The latter point is worthy of especial emphasis. The anesthetic effect lasts for hours, sometimes for days, an important factor in connection with rectal and other operations that may be classed as painful.

Many Physicians Favor the Sheldrake Springs.—Attractive Hotel and Health Resort on Lake Cayuga, New York.

About half way down Cayuga Lake is located one of the most attractive hotels and health resorts in western New York. The Sheldrake Springs, located on the hillside, sloping gently down to the shores of Cayuga, is an ideal resort.

It is a modern building, equipped with elevator, electric lights, steam heat, sanitary plumbing, and in fact every conveninence which could add to the comfort of its guests. The rooms are large and airy and tastefully furnished, many of them being en suite with private bath. Wide verandas overlooking Lake Cayuga extend around the house. During the winter season, for The Sheldrake Springs is open the year around, these verandas are enclosed in glass and form an ideal sun parlor. The cuisine is of unvarying excellence and fresh fruits and vegetables from The Sheldrake Springs farm are a feature.

There is plenty of amusement possible at The Sheldrake Springs. A nine-hole golf course is connected with the hotel, and there are also tennis courts and billard parlors, together with boating, bathing and fishing.

The Sheldrake Springs is particularly popular with motorists. It his a finely equipped garage and the roads both from the east and the west are unusually good.

The location of th Sheldrake Springs is ideal and the climate dry and invigorating. There is a total absence of mosquitoes and other insects. The hotel is fitted with the most modern and up-to-date facilities for the giving of Nauheim, Turkish and Russian baths. The mdical department is conducted on a strictly ethical basis. Hydrotherapeutic and Electrotherapeutic treatments are given under the general direction of the physicians in charge, and the aim of the management is to offer to its guests the best medical attention, combined with the comforts and appointments of a perfect hotel which makes The Sheldrake Springs Health Resort rank among the first, as a place for health, rest and recuperation.

THOSE COUGHS THAT HANG ON.

Few conditions prove such a source of worry and annoyance to patient and physician during the cold months as those obstinate coughs of bronchial origin. Not only is the cough a great bother, but if not checked, it is not unusual for a graver state—such as a pulmonary tuberculosis—to follow. For the relief of "those coughs that hang on," Cord. Ext. Ol. Morrhuæ Comp. (Hagee) is a favorite remedy with thousands of practitioners. It takes the edge off the cough, soothes the irritated mucous membrane and so builds up general health as to increase markedly the bodily resistance to other and more serious diseases. Cord. Ext. Ol. Morrhuæ Comp. (Hagee) is a potent palatable cod liver oil preparation.

The theory that mucous membranes in pathological states are self cleansing is a position that can no longer be scientifically sustained and only when we fail to recognize the fundamental principle that mucous membranes must be cleansed and kept clean do we get into trouble and to this end mild antiseptic solutions are necessary.

Fail in this and you only leave an era of infection that will lead you into further trouble.

In the treatment of inflammation of mucous membranes it must be remembered that we have with a highly sensitive tissue, one with an active nerve and large blood supply. Here we have at once two reasons why strong antiseptic solutions such as nitrate of silver or permanganate of potassium should be used only in the mildest solution, better not at all.

1st. After the secretive mucous membrane is cleansed it can easily be kept so and by a mild solution.

2nd. Mucous membranes if kept clean heal readily by virtue of their rich nerve and blood supply. Strong antiseptic solutions destroy the normal function of mucous membrane.

The treatment of nasal catarrh is not necessarily the work of the specialist. You will find that Germiletum applied with nasal douche or spray, holding solution in contact for two or three minutes will thoroughly cleanse the nose, mouth and throat and keep it so. The normal functioning of the membranes will soon become evident.



DIPHTHERIA OF THE INTESTINES.—McKechnie (*Montreal Medical Journal*) records the case of a girl, aged six years, who left Fiji for Germany. Shortly before leaving she was attacked with apparently mild dysentery. The condition persisted during the voyage of two and one-half weeks, but was held in check by treatment, though the stools were small and frequent and contained blood, mucus and pus. Enormous quantities of streptococci were found to be present, and these disappeared under treatment with streptolytic serum, but the symptoms did not abate. Finally cultures showed bacilli of the diphtheritic type. Antidiphtheritic serum was then used with immediate improvement, and two days later a complete cast of the bowel, about four inches in length, was passed. The child made a slow but good recovery. The cast microscopically was a true diphtheritic membrane. The knee jerks were noticed to be absent, and later paralysis of the sphincter ani occurred, so that for two weeks there was incontinence of feces.—*British Journal of Children's Diseases.*

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Acute Nasal Catarrh.

By Elmer Sothoron, M. D., Washington, D. C.

About six months ago a girl of 17 consulted me relative to an acute attack of nasal catarrh from which she had suffered for several weeks. As was my custom I sent her to the leading nose and throat specialist of this city.

After several weeks the girl returned to my office in company with her mother. She complained that her condition had grown steadily worse, that when she "blew her nose" there was considerable hemorrhage from the membranes. When I examined her nose I found both the anterior and posterior nasal passages inflamed and raw. The membranes were so badly swollen that the passage was completely closed up. I explained to the mother that in sending her daughter to the specialist I had done the best I knew how.

I had a sample bottle of Glyco-Thymoline on hand and knowing it to be a powerful deodorizing agent and the discharge from the girl's nose being so very offensive, I gave her the sample of Glyco-Thymoline, also a K. & O. douche and instructed her to use a 50% solution in the nose four times daily but held out to her no hopes of a cure.

Within about two weeks the girl returned to my office and upon examining the nose I found the entire passage to be in a normal condition. Glyco-Thymoline had done the work unaided and beyond my most sanguine expectations. I expected a palliative treatment and a curative effect was obtained.

It is my belief, and cases subsequently to the one above cited bear me out in my contention, that in the early stages in the treatment of inflamed conditions of the nasal and post-nasal passages when there is marked congestion Glyco-Thymoline should be used in a 50% solution.

Sprained Ankles.—The ankle is a very complicated joint, and when it has been sprained, the pain, swelling and weakness may last even longer than if there was a fracture of the small bone of the leg. When a sprain has occurred the patient must at once go to bed and keep the joint motionless, so as to avoid inflammation so far as is possible. A surgeon should at once examine the parts to make sure that the injury is only a sprain; for, if there be also a fracture, splints must be applied to ensure union of the broken-bone. Should the injury be only a sprain, the joint must be kept constantly covered with some cold application, such as layers of lint steeped in an evaporating lotion of spirits and water or vinegar, or with a cold vinegar and bran or linseed poultice. In either case the cold and moisture must be continuous for several days, and it must not be left off so long as there is acute pain and swelling. When these symptoms have passed off the ankle will require to be compressed with calico bandages, or by strapping with layers of adhesive plaster spread on leather or on moleskin—a specially strong fabric of cotton. The swelling will lessen under continuous pressure, and so the bandages or strapping will need occasional change. When the



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swelling has all subsided the ankle will be weak for a time from the necessary confinement it has undergone, and then there must follow a period of shampooing with baths of cold salted water, tried every morning.—*Health.*

A New Method of Vaccination.—The *Journal of the American Medical Association,* in its issue of September 17th, gives a new method of vaccination, in an article by Dr. Sigmund Wassermann, of Cleveland. The new and valuable idea advanced is that of the instrument used for scarifying and the method of its manipulation. Instead of the ordinary scratching method, with the various instruments usually selected, a small well-sharpened chisel is used, and, with a few rotary movements, the chisel being held firmly against the skin, perpendicularly, the required amount of skin may be removed, practically without pain. The vaccine virus is first smeared on the skin, and the abrasion and implantation of virus takes place simultaneously. In this method, only a single traumatic lesion is formed, and the resulting pustule is geometrically circular, and ripens sharply. The crust covers the underground completely, and dries out uniformly and without breaking.

The Parts of the Spine most liable to fracture are (a) atlo-axial region, (b) the cervico-thoracic, (c) the thoraco-lumbar juncture. [Treves' Applied Anatomy.]

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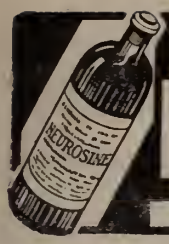
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THE PREVENTION OF COMMON COLDS.—The common cold is not merely a congestion; it is an infection. The popular fallacy of a cold being due to exposure to drafts and sudden changes of temperature and chilling of the body, adheres persistently in both the professional and lay mind. None of these predisposing causes will produce a cold in an individual without the presence of the pneumococcus, the influenza bacillus, streptococci, staphylococci, or other bacteria. Arctic explorers exposed to all the conditions ordinarily supposed to produce colds, never suffer from these ailments until they return to civilization and become reinfected by contact with their fellow men.

Colds are contracted from other persons having colds, just as diphtheria is contracted from diphtheria. A campaign to prevent the spread of the common cold would have much collateral good in aiding the suppression of tuberculosis, and causing a diminution of pneumonia. Common colds occur in epidemics, and have all the earmarks of contagious diseases. House infections, and outbreaks in schools, factories and other places where many persons are closely associated, frequently occur, and result in considerable loss of time and money.—*Boston Med. and Surg. Journal.*

RADIUM, ITS ACTION AT DEPTH.—Wickham and Degrais at the session 8 July, 1910, Medical Society of the hospitals of Paris, say that radium exerts its influence at a depth of 9 cm. and that this influence has a selective action upon the cancer tissue.

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THE ACT OF VOMITING AS SEEN BY X-RAY.—Levy-Dorn and S. Muehlfelder state that the act of vomiting as described in the text-books on physiology does not correspond with the actual facts as viewed by the aid of the X-ray. Thus it has been said that "the musculature of the stomach plays no decidedly active part in the act," and again that, "coincidently with a spasmodic contraction of the expiratory belly muscles, and with closure of the glottis and a low position of the diaphragm, the pylorus is tightened and the cardia completely relaxed, but the stomach remains flaccid." Each of the writers in turn swallowed a concentrated mixture of bismuth carbonate, sugar and water, and was then watched by the other through the fluorescent screen during the act of vomiting. The lower pole of the stomach was seen to lower itself suddenly, and then to rise jerkily to the extent of three finger breadths. Sometimes the stomach made several short jumps up and down before rising more markedly. Viewed sideways, the stomach was found not only to rise, but also to draw back from the belly wall. The gastric shadow became at the same time shallower and narrower. The diaphragm assumed an inspiratory position at the commencement to the act of vomiting, but during the remainder of the act was in an expiratory position. It appears clear that during vomiting the stomach contracts forcibly upon its contents.—*Berl. Klin. Woch.*

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A New Form of Sore Throat

Of unusual severity made its appearance recently in certain parts of England. Salford, near Manchester, particularly suffered from it, and many cases have been seen also in the West End of London. There is great pain and dryness, and often much swelling, but the appearance is not of an inflammatory character, nor is there any exudation. The prostration, however, is severe, and the patient feels very sick indeed. But the curious point is, that it is attended with but little or no fever. It appears to be highly contagious, sometimes running through entire families. No mention appears showing whether the Klebs-Loeffler bacillus has been found, but one can hardly imagine it has not been. Diphtheria has recently been added to typhoid as a disease that is probably spread by carriers. On the other hand, it seems possible that it may be an unusual manifestation of the influenza bacillus, which at this period is apt to be very active. The unusual prostration, out of all proportion to the local condition, seems to point that way. Intestinal influenza is a well recognized type. Is it possible that in the present instance the bacillus has been able, by some condition of environment, to get to work at once, without the necessary incubation period in the body, so that its local manifestations appear at the time of its first lodgement? It would be of interest to know whether any similar cases have been observed in this country, and if so under what conditions.—*Am. Med.*

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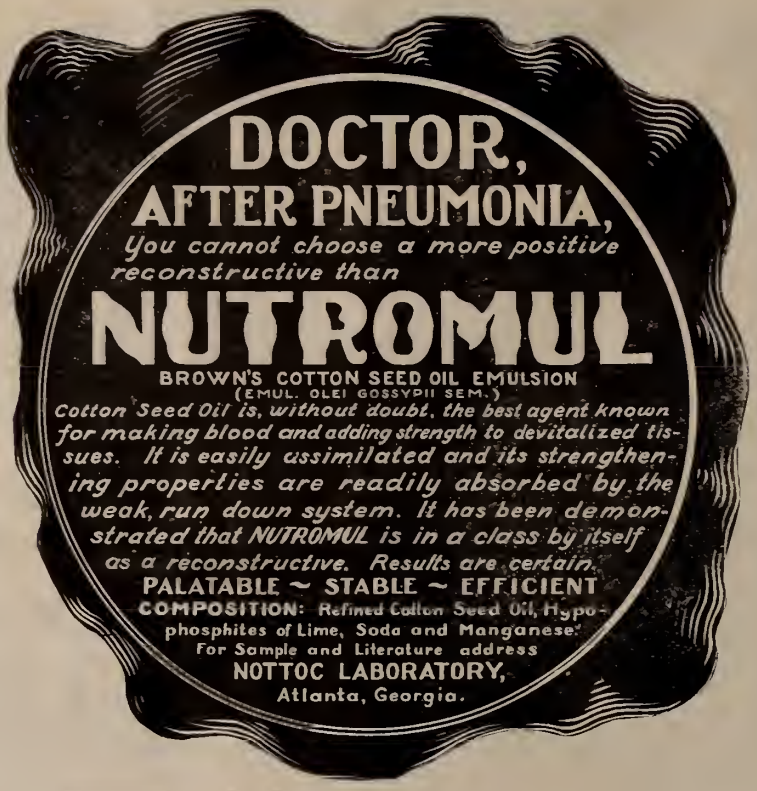
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Catalogues

The Medical Department of the University of Vermont will appreciate it very much if any of the Alumni can furnish catalogues of the Medical Department of the following dates to complete the files, 1857-66-7-8-9-71 and 73. These may be sent to the Dean.



Viava Fakes.

The Viavi fake, being as it is, such a monumental one, and so very profitable to those admirable citizens and pious gentlemen, the Law brothers, has created many would-be similar fakes. There are many of them and from some things that seem to act as straws in a breeze, "olivoint" would appear to be headed in that direction. The Millennial Medical Company, with its "millennial medicated capsules," is certainly in the list, if one may judge from a circular recently distributed. But these little fellows are just clumsy; true, they may be also deadly, as when they imply that cancer may be prevented or cured by the use of their stuff. They all forget that what has made the monumental success of the Viavi fake is not the fake itself—it is the keen, shrewd, cunning brain of the little Law brother, one of San Francisco's most wealthy and distinguished citizens. It is not the three little shells and the elusive little pea that are so valuable to the "shell game" fakir; it is the dextrous way in which he works the fake. The promoters of these clumsy imitators of the Viavi fake will never get to be directors of the Young Men's Christian Association; they have not the guiding genius of the little Law brother to manipulate the fake; and you can bet he would not rub "viavi cerate" on his belly if he had appendicitis!

The Telephone and Public Health.—Certain sanitarians who are looking for germs of disease on all sides have sent out some C. Q. D. danger signals as to the telephone as a source of infection. All these movements are educational and therefore beneficial.

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Vermont Medical Monthly.

VOL. XVII. MAY 15, 1911. NUMBER 5.

ORIGINAL ARTICLES.

INDIGESTION AS A SURGICAL SYMPTOM.*

BY

IRVING S. HAYNES, M. D.,
New York.

Indigestion is a term that bears the same relation to bodily ailments that charity does to sin, "it covers a multitude." Indigestion has existed as long as animal life, in the human family it has unquestionably been a potent cause not only of individual suffering and family discord but also of political disturbances of world-wide extent.

Until within the last two or three generations it was regarded as a medical affection and its causes imperfectly understood. Since its etiology has been more carefully determined it is now seen that indigestion refers merely to symptoms and is not the cause of the individual's sickness which is a condition frequently curable only by operation.

The laity and often the physician are content with the diagnosis of indigestion and, in most cases, refer the location of the trouble to the stomach. As a matter of fact the stomach is probably one of the least of all the abdominal organs to be the seat of disease, its serious disorders comprising not more than 5% of those diseases of which indigestion is a prominent symptom.

I think it a safe guess that half of the patients consulting us begin their history with some reference to a disturbed digestion and usually assign such symptoms to their "stomach" which they locate most anywhere in the abdominal cavity.

They usually start off by saying that they "cannot eat," which really means that they cannot eat everything without discomfort or that there is distress varying to actual pain immediately or soon after eating certain things followed by eructations of gas, possibly vomiting, and usually constipation. An analysis of these various symptoms is absolutely necessary to a correct diagnosis. To bring the matter in concrete form before you I beg permission to quote cases from my own experience.

The necessity of a careful history and a thorough examination is being continually forced upon our attention. We may treat little Johnny for a "belly-ache" without relief for several weeks to have the correct diagnosis made for us by his mother who tells us that she has found a lump in his back. The child is then examined and a well marked Potts' disease of the spine is found with a prominent kyphos. The correct diagnosis could have been made much earlier and this deformity prevented or lessened had we taken time to thoroughly examine the stripped child.

The following case illustrates the necessity of routine examination:

Case 1.—Early in my practice, while treating a child for tubercular knee joint disease, her mother consulted me for indigestion, and constipation. I gave her different drugs for her symptoms on and off for several weeks but always the complaint of the old German woman was the same and she invariably wound up her tale of woe by saying "Doctor my onest trouble is the vint and the vatter closet," meaning that she was filled with gas and obstinately constipated. I examined her finally, which I should have done at first, and found an umbilical hernia as large as a child's head. When I told her that the hernia was the cause of her trouble she said "vy dot! vy I've had it all my life." She did not believe me nor would she consent to an operation.

Neither must we accept the patient's statements without full investigation and personal examination as the next case will show.

Case 2.—A woman of the better class breezed into my office one day and started in at once by saying: "I have indigestion and want something for it." Her positive manner and brusqueness piqued me, I think and I said, "how do you know you have indigestion?" "Why," said she, "I have had it for years, have been treated for it by many physicians and a number of stomach specialists and that is what they all call my trouble." Physical

*Presented at a meeting of the Lenox Medical and Surgical Society, March 25, 1911.

examination showed everything normal except a very loose right kidney and a sensitive appendix. Firm strapping, and later a proper abdominal belt cured her so thoroughly, without a drop of medicine, that no operative measures were necessary. However, not all cases of floating kidney can be successfully treated by strapping.

Case 3.—This patient, a young woman, gave a typical history of indigestion, gas, discomfort after eating, constipation and pain in the right costo-vertebral angle and in the region of the appendix. An examination showed a very low-lying right kidney and the usual sensitive appendix. Strapping did not give any relief. Kidney fixation and appendectomy cured her.

Of the more common diseases which are attended very early in their history by indigestion are gall-stones. Invariably gall-stones at some time will produce disturbances in the function of digestion. In fact, indigestion is the only syndrome by which we can arrive at an early diagnosis of this disorder, other possibilities being excluded. This is so true that I would urge the necessity of careful analysis of our cases with this condition in view. The accepted text-book descriptions are almost worthless in making an early diagnosis of gall-stones because the stress is laid upon symptoms which do not occur until late in the disease when other serious complications have arisen.

Case 4.—A stout woman, weighing over 200 lbs., had been under her physician's care at irregular intervals for the past two years for periodical attacks of indigestion. She could not eat with comfort hardly anything, belched gas, her food repeated, and she was very constipated. She had never vomited or been jaundiced. Has had attacks of pain once or twice a year which were felt along the right costal margin and under her right shoulder blade. Lately these attacks have become more frequent. Her physician referred her to me with a diagnosis of gall-stones. Examination showed Robson's point tender, also McBurney's. All other regions were negative. I confirmed the doctor's diagnosis and added chronic appendicitis. Operation proved the correctness of the diagnosis by disclosing nearly a hundred gall-stones and a tortuous, chronically inflamed appendix. She was in my office only a short time ago complaining because she had gained 30 pounds and wanted some anti-fat treatment. I referred her to her family physician. This is a typical case of gall-stones in which a correct diagnosis was made previous to operation. The following is one of the same disease in which an incorrect diagnosis was made but the correct treatment followed out.

Case 5.—A tall, thin, anemic woman of 45. The trouble which made her seek medical advice was that for the past three years she had been having her menstruation every 25 days. Flow free, without pain and lasting 5 days. She has lost 8 pounds during the past few months and feels very weak. Her other functions are normal except that for the past year she has had some indigestion. This feature of her trouble she did not emphasize and I centered my attention on the pelvic region. There was some tenderness over the pit of the stomach, on examination, but even this was not impressive. The kidneys were O. K., ditto the appendix. The uterus was large, retroverted towards the right and apparently fixed by adhesions. The cervix was soft, patulous, swollen, contained numerous cysts and easily bled on examination. I operated for the pelvic troubles, doing a curettage, finding and removing a small cervical polypus and punctured the cysts. Opened the abdomen, removed two cystic ovaries and an involuting appendix and slung the uterus from the recti muscles. Not being satisfied with the amount of pathology disclosed and her generally sick appearance I explored the gall-bladder and found it full of calculi. The lower incision was closed and a second one made through the right rectus. The gall-bladder, containing 145 stones, was removed. The patient has been cured of her severe anemia and is a well woman to-day.

Here is another case which illustrates the failure of a correct diagnosis but a cure by operation:

Case 6.—A strong Irish servant of 40. Has had indigestion for the past 18 years. Ten years ago she was operated upon for this condition by probably removal of both ovaries. She had a very stormy recovery. There was no improvement in her symptoms which are these: She has almost constant distress after eating anything. For the past few years she has lived almost exclusively upon milk, soups and raw eggs. Solids she dares not touch at all. There is always actual pain lasting for two or three hours after eating. It is felt most mid-

way between the ensiform and the umbilicus and is reflected through to the back between the shoulder blades. She is at all times uncomfortable through the bowels below the umbilicus. Frequently she vomits several hours after eating and sometimes has ejected food eaten the previous day. She has never vomited blood but nine years ago she was very sick for three weeks and passed blood in the stools for several days—probably had typhoid fever. She gives no history of colics and has never been jaundiced. Neither is there any history of appendicitis.

Examination.—Patient is anemic and not jaundiced. There is a very tender area at the right of the umbilicus over the region of the ascending colon, less tender over the stomach. The gall bladder does not seem tender at all and the appendix is slightly if at all involved. The pelvic viscera are negative, also the kidneys. The stomach is not distended. Examination of a test breakfast gives a total acidity of 58 with HCl 18. There is no blood present. The symptoms pointed to a pyloric stenosis which I thought was probably due to an old ulcer of the duodenum which had healed with adhesions and cicatricial contractions crippling the stomach. The operation showed the stomach, pylorus and duodenum perfectly normal but a small, thick, fibrous gall-bladder filled with many calculi. A cholecystectomy was done. An examination of the specimen showed besides many stones free in the gall-bladder one about a third of an inch in diameter firmly fixed in the cystic duct. The pelvis was full of adhesions, the effects of the former severe pelvic peritonitis. There was also a broad band of the omentum adherent across the caecum and constricting it. This was divided. The appendix was so covered with adhesions that it was not exposed. She left the hospital in 4 weeks and for several months seemed to be gaining constantly. However after this improvement the symptoms of retarded stomach digestion and impaired motility became troublesome and I'm not certain but that we shall have to perform a gastro-enterostomy before obtaining a cure.

There are several lessons to be learned from this case.

First, in the presence of long standing disease it is more difficult to arrive at a correct diagnosis because added to the symptoms of the original disease are the symptoms of the complications.

Second, that an exploration of the gall-bladder at the time of the first operation undoubtedly would have disclosed the primary cause of her sickness and have saved her all the ensuing years of suffering and a second operation.

Third, the futility of prolonged medical treatment in chronic disorders affecting the digestive tract, when improvement is not obtained within a reasonable time.

Case 7.—The following case is one in which I am still in doubt: Widow, aged 51. Weight 116 pounds. School teacher. Family history, negative. Had one child 25 years ago. Menopause, 6 years ago. Been constipated for years. Has had indigestion for the past two or three years. Loss of appetite. Two weeks ago had severe attack of pain over the stomach which spread to the entire abdomen. Vomited, no blood but stomach contents. At present the pain is just above the umbilicus and spreads over to the right side. Corsets hurt her, deep breathing catches her.

Examination, tender over McBurney's point, also just at right of the middle line midway between the umbilicus and ensiform. Pain is felt also just below the waist line at the right of the spine and forward to the front.

There is tenderness over the gall-bladder and pylorus at Robson's point. Once on deep inspiration I thought I felt a small, hard lump which I thought to be at the pylorus. Repeated examinations did not confirm this.

A test breakfast showed a total acidity of 50 with 5% free HCl, trace of lactic acid. Practically the entire amount of food recovered showing a deficient motility in the stomach. Urine high specific gravity, 1030, with increase of indican. Vaginal examination negative. For the past year has had pain immediately after eating which lasts for about two hours and then gradually grows less. No blood in the stools.

Was placed on a strict diet, nux vomica, HCl and pepsin, before meals and rhubarb and soda after eating. Put to bed and kept quiet. Improved so much under this treatment that she was out of bed in a week and placed on a full diet, including meat at the end of four weeks.

Six months later she was feeling very well, but still had a slight pain in the right costo-vertebral angle. All other symptoms improved.

At the end of a year patient was in a very comfortable condition and did not suffer if she was careful about eating and not over-doing.

The diagnosis in this case favors a gastric ulcer near the pyloric end of the stomach. Carcinoma of course was in my mind all the time but had it been present the diagnosis would have been certain at the end of a few months. The possibility of its appearance must, however, be kept in mind.

Case 8.—A second stomach case subjected to operation is interesting. Italian laborer, aged 38. Has had three or four attacks during the past year. Last attack five weeks ago when he was treated in the hospital (Harlem, where I saw him.)

The present illness began two days ago with severe abdominal pain followed by nausea and vomiting; first of the stomach contents, later frothy matter and lastly coffee-ground material. Has continued to have pain since then and to vomit at intervals. Unfortunately the vomitus was not examined by the microscope but the gross examination showed blood. The bowels were regular and showed no trace of blood, gross examination. He had a slight fever. Examination showed a very tender spot in the epigastric region, but no muscular rigidity.

Test breakfast gave a total acidity of 82 with HCl 11. A diagnosis of ulcer of the stomach was made and a median laparotomy performed. Nothing abnormal was found with stomach, duodenum, appendix, gall-bladder or ducts. Wound closed. While, from the surgical standpoint the operation was a fruitless one, from the therapeutic one it was a success for the patient left the hospital perfectly cured.

The next common condition causing indigestion as one of its effects is chronic appendicitis.

You are so familiar with these cases giving a history of poor nutrition, so-called flatulent indigestion, constipation with frequent slight attacks of pain in the right iliac fossa completely cured by removal of a chronically inflamed appendix that I will not take your time to quote one.

The next case illustrates the undesirable conditions which may follow certain forms of appendicitis.

Case 9.—Male, aged 26. This young man would easily mislead anyone not going thoroughly into the history and not making a physical examination. He had all the symptoms of an aggravated disorder of digestion. Flatulence, palpitation of the heart, belching of immense quantities of gas, headaches, muddy complexion, sudden fluctuations in weight, nervousness and at times inability to concentrate his attention, easily fatigued, habitually constipated. Twelve years ago I operated upon him for perforative appendicitis with a large abscess. Drainage had to be used. There is a gap in the scar which admits the tip of the index finger, the intestine is adherent to this spot and bulges into it. To my mind this is the cause of all his digestive disturbances and a herniotomy would cure the condition.

Of the apparently trivial things which may be the cause of severe digestive disturbances in some patients the next case is a good example.

Case 10.—A tall, thin woman, aged 30. Ever since the birth of her only child, about 5 years ago, she has had indigestion, marked by a very acid stomach, eructations of gas and food. At times has vomited bile. Has severe headaches. Has lost weight, at times ten and other times twenty pounds in a very short time. Has a backache low down across the lumbar region. No pain in the upper part of the abdomen but at times a tenderness over the pit of the stomach. Abdominal examination is negative. Pelvic examination shows a retrodisplaced and congested uterus, freely movable. The uterus was easily replaced and a pessary fitted. The digestive disturbances quickly disappeared, her normal weight was gained in three months and she claimed to be perfectly well. After wearing the pessary for two years it was removed. The uterus staid in position until she visited the sea-shore and indulged in sea-bathing. Soon afterwards all her old symptoms returned. The loss of weight was very marked, amounting to 17 pounds. The uterus was found again tipped backward, it was replaced and the support again placed in position. A second time the cure was repeated. She has reported within a month that she was perfectly well, has regained her lost weight and is trying to make up her mind to let me shorten the round ligaments and so dispense with the artificial support.

Case 11.—Here is another condition which is frequently noted after typhoid fever. Miss S., 34. Unmarried. Large, strong woman. Came to see me in November. Had typhoid fever from June 10th to Aug. 1st. Not an especially severe attack. Has had attacks of acute indi-

gestion with pain cramps and fever simulating appendicitis. Monthly irregular and with great pain before flow starts.

Examination, tender over caecum and bladder. Pelvic organs normal as are the rest of her abdominal viscera.

Diagnosis. Crippling of intestine from preceding typhoid, with interference with function of bowel.

Treatment by diet and simple remedies cured trouble in a few weeks.

Here is another intestinal case of a more serious nature:

Case 12.—Female, aged 44. For the past two months has had indigestion. Bowels are constipated. Three years ago her uterus and tubes were removed for "threatened cancer." She made a good recovery from the operation and has been well up to within the past two months. Besides the indigestion she complains of a burning sensation over the bladder and in the left inguinal region. The constipation is relieved by olive oil. Has had no visible blood in the stool, no pain or tenesmus. No evidence of stenosis of the bowel. Examination shows absence of the uterus and tubes and left ovary, the right ovary is in place. Rectal examination discloses at the highest point the finger can reach some induration about the bowel. Nothing was seen through the rectoscope.

After clearing out the bowels by a saline cathartic and injecting through the anus an emulsion of bismuth subnitrate an X-ray photograph was taken. This showed marked prolapse of the transverse colon and the adhesions in the pelvic cavity show quite clearly. A diagnosis was made of cicatricial contraction about the upper rectum from the previous hysterectomy, probably not malignant. A month later the patient wrote she had gained two pounds and felt well. A year later has developed nothing new, but the possibility of a cancer has not been lost sight of.

Passing from this doubtful case we will consider one in which the diagnosis was exactly made before and confirmed after operation.

Case 13.—Male, 44. Sent to me by his family physician with a diagnosis of acute gastritis. He had always been well up to two months ago, when he sought aid for his "gastritis and diarrhea." He has been constipated for the past two years and required gradually increasing doses of cathartics to secure an operation. He has had no pain at any time in the abdomen until the last two weeks, and this has been around and above the umbilicus. Aside from his constipation his chief complaint was of "gastritis." There was distress after eating from the gas present in the stomach followed by pain above the umbilicus. Making a more complete examination of the case a typical distention of the abdomen was found due to distention of the large intestine. With this distention, a gradually increasing constipation amounting at this time to almost total absence of feces, a diagnosis of annular carcinoma of the sigmoid was made and confirmed by operation, which consisted of excision of the growth, closure of the lower segment and the formation of a left inguinal artificial anus. The patient died on the fifth day from pulmonary edema. The site of the operation showed perfect healing. Many more cases might be cited but I think that the above will serve to fix in our minds the essential message of my paper, viz., that the term indigestion may indicate the earliest and perhaps the most prominent facts of the patient's symptomatology, but even so, we are only dealing with the effects and the cause in any given case remains to be discovered. Indigestion is but a symptom and not a cause of the individual's sickness.

In taking the history it is necessary to get all the facts and to get them without distortion either by the patient or the doctor however unconsciously this may be done. It is very easy to give a turn this way or that by forming too early in our minds an opinion as to what is the trouble before the patient has completed the history. Take up the digestive conditions from the mouth to the anus. The symptoms of distress or actual pain connected with the process of digestion calls for the most careful analysis, as to its time of appearance, duration, location and reflection if any, and by what means it is relieved. Nausea, vomiting, diarrhea or constipation must all be inquired into. The functions of urination, menstruation require positive information. Having finished a careful history examine the patient with the abdomen uncovered. Use the safe old-fashioned measures of inspection, palpation, percussion and auscultation. In this day of the exaltation of the laboratory methods and findings we must remember that the clinical picture is the main one to get formulated and impressed upon the mind.

If your clinical diagnosis is contrary to that of the laboratory, stick to the clinical side. I have little faith in laboratory examinations of the stomach contents. In the early stages when a diagnosis is so difficult to make and information most needed they are usually negative or erroneous. Later, when they are positive, there are so many other signs present that most anyone could make a diagnosis without the aid of the laboratory. The main point is, however, that in delaying for a positive laboratory confirmation of our suspicions the golden opportunity may have been lost and nothing left for surgery to offer the patient when its aid is finally sought. After all is thought, said and done we may still be only near the truth. I do not urge hasty operation, nor operation until a rational medical treatment has been given a fair trial, but after this has been done and the conditions are not improved then I say it is wrong to withhold from the patient the advantages of surgery. Consider how many diseases have gradually been transferred from the medical to the surgical column of treatment. Not by the best internists as a dernier resort but as the right thing to do, early recognizing that while medicine might be palliative surgery was curative.

The first battle ground raged over fibroid tumors, then over ovarian cysts, then the fight was over appendicitis. Next gall-stones and gall-bladder disease were shown to be treated most expeditiously and successfully by surgery rather than by forming soap balls with olive oil and deluding the patient into thinking that he was passing his gall-stones. The next region invaded was the stomach and duodenum. Ulcers of these viscera have their proper medical aspect and treatment and also their proper surgical side but this is not after the ulcer has perforated or developed into a cancer or the individual become moribund from hemorrhage, but at an early date in the disease when the condition is curable.

The latest conquest for surgical treatment is thyroid disease. Medicine can palliate but surgery can cure hyperthyroidism. Surgery is thus invading the hitherto exclusive realms of the internist but not to his detriment, rather to his advantage, because with the aid of the surgeon the internist gets a cured and grateful patient instead of one dragging out a miserable existence or dying from some septic abdominal condition. To my mind the internist deserves as much or more credit for an early and skillful diagnosis as the surgeon who acts on that diagnosis and removes an appendix before it ruptures, or gall-stones before irreparable damage is done or a gastric or duodenal ulcer before it has ruptured or become the seat of cancerous disease.

BACTERIOLOGICAL AND SERUM DIAGNOSIS OF SYPHILIS.

BY
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After generations of groping in the darkness of ignorance in regard to the bacteriological cause of syphilis, the light seems to have come at last, and the causative micro-organism may now be recognized and isolated. The old method of withholding treatment until secondary symptoms appeared has been superseded by the newer way of diagnosing at once by microscopic examination and serum reactions.

Spirilla have long been recognized as pathogenic organisms, that of relapsing fever being discovered by Obermeier in 1873, while in 1883 Koch found the smaller spirillum or vibrio of Asiatic cholera. Several varieties of non-pathogenic spirilla are present in the normal secretions of the mouth, S. Refringens being the most important of these. Schaudinn, in 1904, was the first to express the opinion that these organisms belonged more nearly to the class of protozoa than to bacteria, basing his claim upon their possession of certain distinguishing characteristics, a definite nucleus, undulating membrane, and flagellae. Other observers have taken issue with this hypothesis, and at the present time the classification of spirillae is still a matter of controversy.

Regarding the causative factor in syphilis, the medical world has from time to time been regaled with apparent discoveries, but all have fallen before the systematic investigations of bacteriological workers. For example, in 1884, Lustgarten described a bacillus resembling the tubercle bacillus, which he found in the primary sore of syphilis and in the lesions of internal organs. This bacillus was demonstrated by

many other observers, but its similarity to the smegma bacillus prevented the general acceptance of the theory and it was at last refuted. This and other claims which were subsequently proven false, caused a general distrust among medical men whenever a specific organism for syphilis was announced, so that each succeeding opinion met with more and more disfavor.

This, then was the condition of medical thought when in 1905 Schaudinn announced the discovery of Spirocheta Pallidum, which he believed to be the cause of syphilis. Hoffman worked with him and substantiated his claims, and with the usual alacrity the laboratory workers of the world set out to confirm or deny the theory. Thus far Schaudinn's spirocheta has not been discountenanced, and the bacteriology of syphilis seems at last to be settled. The nomenclature relating to the organism has been the cause of some confusion. Schaudinn called it S. Pallidum because of its colorless appearance in various stains, but it was soon found that another spirillum had been given the same name. As it was further studied, the title "Treponema" seemed to be more in scientific accord with its classification and it is now becoming generally known as Treponema Pallidum.

No doubt the reason accounting for the late recognition of this organism was the difficulty in finding a stain which renders it visible. However the very fact that it is refractory to stains renders it amenable to an extremely simple process, the India ink stain. This process is conducted as follows: The lesion having been wiped clean of blood and exudate, some of the fresh serum is smeared upon a slide or cover-glass. A little distilled water may be mixed with the serum to prevent rapid drying, and about an equal quantity of India drawing ink is at once placed on the smear. The whole is then allowed to dry in the air. With this staining, the organism appears under the oil immersion lens as a colorless spiral in a brown field. The following is a description from Jordan: "In size the spirilla usually range from 4 to 20 microns in length and are very slender, probably rarely reaching 0.5 microns in thickness. The turns in the spiral are close and regular; the number of curves ranges from three to twelve and may reach as high as forty. There is a fine flagellum at each pole. Movement forward and backward may occur and also rotation on the axis. The cell is not a perfectly rigid spiral, but is quite flexible." A warning has recently been published in the Journal A. M. A. against mistaking shreds which may be found in the ink alone for the organism, but this would probably not be needed by an experienced worker.

The spirillum may be stained by Giemsa's method, using eosin solution and azure blue, when it appears in pale rose color, or by the silver nitrate method, in which after adding the silver solution the slide is exposed to diffuse daylight for many hours, when it is shown as a black spiral. The latter method may also be used for the detection of spirilla in tissues. Probably the best method of finding the spirochetes is to make a smear on a slide and examine it at once without staining by means of the dark field illumination. This shows the organism alive and in motion. No satisfactory means of growing the spirochete in culture has yet been devised.

Almost simultaneously with the discovery of the S. Pallidum by Schaudinn, Ehrlich described his side chain theory of immunity and with this as a basis several methods of serum diagnosis of syphilis were worked out. The original and most used method is that known as the Wasserman reaction. In this country Noguchi's modification of the Wasserman has gained a considerable following. Explanation of these two systems necessitates a brief review of the side chain theory.

Ehrlich assumes that any substance, whether food or poison, in order to enter into definite combination with a cell of the body must do so by means of a chemical power similar to the combining power of organic chemical compounds, the benzene ring for example with its products, benzoic alcohol and acid, salicylic acid, etc. This combining power he graphically represents as prolongations of the cell, and these prolongations he calls "receptors." He also assumes the presence in the serum of a certain active agent capable of producing chemical changes in the cell when brought into definite combination with it. This active agent he calls "complement." But the complement does not fit the receptor of the cell directly and can only combine with it by means of a third substance called the "intermediary body," "antibody" or "amboceptor," which may be developed under certain conditions. These three agents form

what is known as a "hemolytic system." Receptor and amboceptor may enter into combination alone, but only when the complement is also fixed does chemical change take place.

To show an instance of the formation of amboceptors, we may cite the well-known fact that if a serum—human serum for example—is injected into an animal—rabbit—the blood of this animal develops a chemical affinity for human blood alone, and in this case the resultant is called "anti-human amboceptor." If sheep serum is used, there are formed anti-sheep amboceptors. In the same manner, a toxin entering the body stimulates the production of antibodies or amboceptors against that specific toxin; e. g. anti-syphilitic amboceptor is formed after infection with this disease. This is present only in syphilitic serum and is capable of combining the specific syphilitic element with complement and thus causing its destruction.

Complement is present in all blood, but some complement is more easily fixed than others, that of the guinea-pig being most available of all for purposes of fixation. The fact is also shown that complement can be destroyed by subjecting the serum to a temperature of 55° for half an hour (therefore called thermolabile), while amboceptors are not destroyed at this temperature (therefore thermostabile). If then, complement is destroyed the serum is inactivated or rendered inactive so far as any chemical results are concerned.

The Wasserman reaction takes advantage of the side-chain theory of immunity by putting together a known syphilitic toxin, an unknown inactivated serum, and a complement in the form of guinea-pig serum. This is incubated a sufficient time for the complement to be fixed, or combined with the syphilitic toxin if the unknown or patient's serum contains anti-syphilitic amboceptors. Sheep cells and anti-sheep rabbit serum are then added and if the complement has all been used up, no action results. If the unknown serum did not contain amboceptors capable of binding the complement to the syphilitic toxin, the complement still remains free and enters into combination with the sheep cells, causing them to break up, or as better known, causing hemolysis, which is a visible reaction. The whole technique of the test need not be gone into here, but mention of the constituent parts will be interesting.

The known syphilitic toxin is an aqueous extract of the liver of a syphilitic foetus. This is called "antigen." The complement is normal serum from guinea-pig blood. To this is added the patient's serum, this having been inactivated, or kept at 55° for half an hour in order to destroy its complement, but retain its amboceptors. The whole is incubated at 37° for one hour. At the end of this period there is added a definite quantity of serum from a rabbit rendered immune to sheep blood and also a suspension of washed sheep corpuscles. Further incubation is given for two hours, and the final reading taken. If hemolysis or breaking up of the sheep cells has occurred it shows that complement was not used by the syphilitic extract; therefore the patient's serum did not contain anti-syphilitic amboceptors. If no hemolysis occurs the test is positive, showing that the unknown or patient's serum did contain the antibodies produced by syphilitic infection and capable of binding syphilitic toxin to complement, so that no complement is available for combining with the sheep cells. A positive test then as seen in the test-tube shows the red corpuscles as a sediment with a colorless liquid above. A negative test shows hemolysis, or the complete destruction of the red cells, there being no sediment but only a uniformly red liquid due to the dissolution of the cells and setting free of the hemoglobin which goes into solution. All reagents must be of a certain definite strength determined by titration and must be used in definite quantity to maintain the proportion one to the other.

Dr. Noguchi, a Japanese physician associated with Flexner at the Rockefeller Institute for Medical Research, has perfected a modification of the Wasserman reaction which is being largely used in this country. The main differences are these: Noguchi uses human corpuscles and anti-human rabbit serum in place of sheep cells and anti-sheep serum. He also uses some of the constituents dried upon filter paper and cut off in definite lengths. This modification renders the test more easily available for laboratories in small places. Noguchi made the further discovery that extract of foetal syphilitic liver is not an absolute necessity for use as antigen, but that any substance containing lipoids will serve the purpose. He therefore uses an extract from

guinea-pig heart or liver, beef liver or kidney or even a solution of lecithin.

The Noguchi reaction then takes as its hemolytic system a suspension of washed human blood cells, anti-human serum from a rabbit and complement in the form of guinea-pig serum. Opportunity is first given for the complement to unite with the antigen if anti-syphilitic amboceptors are present in the patient's serum. If complement is not fixed by the syphilitic series, it is available for the blood cells and hemolysis takes place. If the patient's serum is syphilitic no hemolysis occurs.

In both reactions a full set of controls is necessary, one a positive using known syphilitic serum; one a negative using known normal serum, and others in which one of the constituents is omitted. Readings may be sharply positive, sharply negative or in any degree between the two. It may be said that the reactions as done at present are not available for individual workers, requiring as they do constant attention and a degree of experience to interpret the varied results which a small worker can only with difficulty attain. In some laboratories both the Wasserman and Noguchi are used, checking one against the other. Gradually, however, the laboratory men are coming to use either the one or the other according to their preference and facilities.

Results from such a complicated reaction naturally differ greatly in the hands of various workers, but even such being the case, the diagnostic value of the test is beyond question. Almost innumerable reports are available in the current literature, and from some of these we may draw the following conclusions:

A positive Wasserman is specific evidence of syphilitic infection.

A negative Wasserman should not be held to contradict clinical evidence.

The reaction is influenced by the stage of the disease, the manner and length of treatment, and the personal characteristics of the patient.

Early cases of chancre frequently give a negative reaction, which however, usually becomes positive later on in the initial stage.

Secondary and tertiary syphilis give almost uniformly positive reactions, many observers reporting between 90% and 100% positives in known or suspected cases.

Parasyphilitic affections show a surprisingly large number of positives, general paresis ranging from 80% to 100%, and tabes 40% to 80%, while cerebro-spinal syphilis shows a wide range of 16% to 88%.

A positive reaction may disappear after two or three months of mercurial treatment and again reappear if treatment is suspended. Hypodermic and inunction treatment are said to be more effective than internal treatment, both in promptness and lasting effect.

A few patients fail to develop anti-syphilitic amboceptors even in case of a virulent infection, but these are very rare.

No matter what stage the disease presents or the number of years after infection or the amount of treatment given, so long as the Wasserman gives a positive reaction there is danger to the patient.

The serum test, then, is of great value not only in diagnosis but as a check upon treatment and final cure.

IS ANYTHING THE MATTER WITH THE DOCTORS?*

BY

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Is anything the matter with the doctors? The original title of to-night's discussion was: What is the matter with the doctors? But as that title contained the definite assumption that something *was* the matter with the doctors, it has been modified to a milder form. But even in this form, it assumes that something is the matter with them. Otherwise the question would not be asked. We do not ask: Is anything the matter with the chemists? Is anything the matter with the physicists? Is anything the matter with the astronomers? Is anything the matter with the electrical engineers? And the reason we do not ask this question in reference to them, is because we know or assume that they are all right. We assume that they know as much as can be known at the present time, with the accumulated facts and the instruments of precision in their possession. And by asking the question:

*Delivered before The Liberal Club of New York, March 15, 1911, at a discussion participated in by the following: Upton Sinclair, Samuel Hopkins Adams, Norman Hapgood, Dr. Robert T. Morris, Dr. Woods Hutchinson and Dr. William J. Robinson.

Is anything the matter with the doctors, you at once betray that you have a lurking suspicion or the positive certainty that something *is* the matter with us. And there is no use denying that such a suspicion or certainty is harbored by a large number of people, particularly of the cultured, or perhaps more correctly, the quasi-cultured classes.

The so-called health journals, practically all of which are edited by men who have axes to grind, and who are perfectly innocent of any knowledge of medicine, are doing their utmost to foster suspicion and fan distrust in the medical profession. A sensational book, which claims to depict the chaos and crime in the medical profession has recently been published and is exerting a pernicious influence on the public, because the focus through which it presents the facts or alleged facts is false and the picture is therefore false and distorted. The quack journals, sensational and untruthful books, and a few ignorant laymen who pretend to assume the role of physicians, have been inciting the public against the medical profession, and by bringing false charges against us, have partly succeeded in creating a feeling of animosity and distrust. You know how critical and analytical our dear public is. You can make it believe anything if you have only enough assurance and impudence; the more stupid, the more sensational the accusations, the more readily will they be believed.

Let us see what the charges against the medical profession are, what indictments a biased, inimical and ignorant jury has drawn up against us.

THE TERRIBLE CRIME OF USING DRUGS.

The first and the most universally heard charge against us is that we are drug dopers. That is, that we do not treat people rationally, hygienically, by the aid of diet, fresh air, sunlight, etc., but that for every condition we give drugs, that we fill the people's bodies with poisons and that by our drugging we often create worse diseases than those we intended to cure. This charge is repeated day in and day out by the quack health journals, which I referred to above. To speak out of the utility, of the indispensableness, of the life-saving properties of a large number of drugs is not the place here. I will merely repeat what I have said elsewhere, that he who has seen the lesions of syphilis melt away under the administration of mercury, iodine or 606; he who has seen the chills and fever of malaria disappear as if by magic under a properly administered dose of quinine or arsenic; he who has seen a miserably dwarfed, imbecile little cretin grow in stature and gain intelligence from day to day under the use of thyroid; he who has seen the pale cheeks of the chlorotic or anemic girl change into red roses under the administration of iron and arsenic; he who has seen a waterlogged old man or woman, unable to take a step without getting out of breath, take on a new lease of life under digitalis; he who has seen a nasty diphtheritic membrane roll away as if by the touch of a magic wand after a dose of antitoxin; he who has seen the fearful torturing pain in a case of renal or gall-stone colic cease instantly after an injection of morphine; he who has seen the life-saving effect of a few drops of amyl nitrite in a case of angina pectoris; he, I say, who has seen all those things will not agree to cure the sick without the use of drugs. And I will say, that if you will show me a man who absolutely denies the utility of drugs, I will show you a man who has never used drugs or who is ignorant as to their proper use.

But as to the charge that drugs constitute the principal factor in our treatment, I can only say that such a charge is maliciously false. Drug-treatment constitutes only a small—a very small—part of the modern practice of medicine. There is not an agent or method, material or immaterial, that we, members of the regular medical profession, do not employ in the treatment of disease. Regulated diet, exercise, water internally and externally in its numerous hydrotherapeutic methods, mineral waters, baths, direct sunlight, fresh air, heat in its multitudinous forms, massage, electricity, roentgenotherapy, Finsen light, radium, antitoxic sera, vaccines, suggestion (psychotherapy), hypnotism, all of these agencies we, regular scientific physicians, make use of freely in our endeavor to cure and to prevent disease. We may use only one of these agencies in the treatment of many of the diseases, but we do not hesitate to use all of them whenever they seem indicated.

A Handbook of Practical Treatment has just come off the press. It is authoritative and presents the latest developments in the treatment

of disease as it is practiced by the regular medical profession. The first 16 chapters deal with the general treatment of disease, and of these 16, only one is devoted to drug therapy!

Take Osler's Practice of Medicine, and you will see that drug treatment is playing a very secondary role, one might say an insignificant role, in the entire book. Inquire at, or study the reports of our foremost hospitals and you will see that drugs play a very secondary role. Nursing, hygiene, proper feeding, cleanliness are our chief agents in fighting disease. But, contrary to the quacks, we know the indications for drugs, we know the proper use of drugs, we know where they are invaluable; and when we do need them, we can use them fearlessly and unhesitatingly.

SURGICAL OPERATIONS.

Another serious charge refers to surgical operations. By one part of the people we are attacked for performing any kind of surgical operations, by another part we are accused of performing surgical operations too frequently, in many cases where they are not at all indicated. To the first charge it is not necessary to reply. He who denies the necessity of any surgical operations, he who denies that very often a surgical operation offers the only chance of saving a life, as is done by many of our "No Knife" quacks in the quack journals, puts himself outside the pale of rational thinking beings, and no discussion is possible with such a person.

As to the second charge, I must confess that it is true of a small number of our profession. It is true that operations are sometimes performed on people who would be better off without them. But this is not due so much to greed and moral perversion as to a certain bias, of which none but the broadest-minded of specialists can be free. A man who is working in one line often becomes narrow and seeing many brilliant successes from his operations, he becomes unconsciously biased in favor of operations. And as it is true that in many cases an operation will do in two weeks what medicinal and hygienic treatment will not accomplish in years, it is not surprising that some surgeons are inclined to give the patient the benefit of the operation, where perhaps an internal physician would consider the operation contraindicated or not at all indicated.

It is true, however, that there is a small percentage of physicians who are devoid of conscience and who will do almost anything for the money. But this is not anything special and unique, it isn't something peculiar to the medical profession. Rascals and brutes are found in every profession, in every trade, and will be found in every profession and every trade as long as we live under our present beautiful competitive system. And the entire profession should not be held responsible for the misdeeds of a few.

THE PRACTICE OF ABORTION.

Another charge against the medical profession is that it is guilty of the practice of abortion. That the entire profession is guilty of this practice is of course false. That a large number of physicians—the percentage is of course impossible to state with definiteness, but I would say anywhere from 10 to 25 per cent.—are practicing it habitually is true. But I would not blame the profession very strongly for it. It is the State that is to blame for this condition of affairs. Wherever there is a demand there will be a supply and the demand for abortions is tremendous. The layman has no idea of the frequency of the demand and of the tremendous pressure that is brought to bear upon the medical profession. I venture to say that for every abortion performed by a physician, at least one hundred demands, requests and pleading supplications are refused. If this were not so we would not have the thousands and thousands of non-medical, male and female abortionists, who thrive throughout the country. A million abortions, at a very conservative estimate, are performed annually in the United States; and I am sure that 75 to 90 per cent. of them are performed by non-medical and professional abortionists, who are outside the pale of the medical profession.

ARE WE ATTEMPTING TO FORM A MONOPOLY?

Another charge that has been heard a good deal of late is that we wish to form a trust, a monopoly, and that we intend to compel everybody to treat patients according to our own methods. How absurd this charge is will be seen at once if I mention that in the New York State examinations, for instance, no questions are asked on therapeutics or the treatment of disease. We do not wish to interfere with anybody's methods of treating disease. We leave

that to the conscience and good judgment of the individual physician. And our only demand is that they who undertake to treat human diseases show that they have spent some time on the study of the anatomy and physiology of the human body and on the pathology and symptomatology of its diseases.

Our examination questions are only on subjects which admit of no discussion, which are accepted by everybody, the same as problems in chemistry or physics are universally accepted. All uncertain or debatable points are entirely left out from our examinations.

WE MAKE MISTAKES.

Another charge against us is that we make mistakes, that we do not always diagnosticate the diseases correctly and that we do not always treat properly. That is true. We do not claim to be infallible, we do not claim to be omniscient. Medicine has not yet reached finality, medicine as a science is, as I explained many times before, but half a century old, and some diseases are so obscure, so complex, that with the present state of our knowledge a mistake is occasionally unavoidable. But we are fighting hard to remove the veil from Nature's secrets and every year we know more and more, and our mistakes are becoming fewer and fewer.

Please remember that it is but yesterday that we began to use the same methods in investigating medical problems that are used by other exact sciences. And our reward has been rich indeed. To mention but one of the scourges of humanity, namely, syphilis. We have learned more about that disease in the last five years than in the preceding 500 years. The cause of the disease—the spirocheta pallida; the best means of diagnosing the presence or absence of the disease in the system—the Wasserman test, and one of the most powerful remedies in the treatment of the disease—606 or Salvarsan—have all come to us within the last five, (to be more exact, five and a half) years. The same may be said about cerebro-spinal meningitis. Three years ago we stood before that monster humble and helpless; now, thanks to Flexner we have a powerful weapon, and we wrest many victims from the monster's clutches. And I venture to say that if in five years from to-night you arrange a similar dinner, I shall be able to tell you of some very remarkable discoveries made between March 15, 1911 and March 15, 1916.

But do the quacks, the irregulars, and those who believe with them, appreciate the fact that when they announce with glee that physicians make mistakes, they thereby pronounce their own doom? For, if physicians who have spent several years in preparatory studies, who have had years of practice, who have every possible diagnostic instrument, who call to aid the chemical, pathological, bacteriological and biological laboratory, make mistakes, how can the quacks and faddists expect rational, sane people to believe that they, who have not any of these advantages, can diagnose correctly and treat properly?

PERSONAL EXPERIENCE SHAPES OUR OPINIONS.

We are no more responsible for our honest opinions than we are for the color of our hair, the length of our faces, the girth of our chest. Our opinions are the conglomerate result of heredity, environment, our bringing up, our companions and friends, the school we attended, the lectures we have heard, the books we have read. Our personal experiences have a tremendous influence on the shaping of our opinions, and it is possible that the unfavorable opinion which some laymen have of the medical profession is due to some unpleasant personal experience which they have had with some member. And it is possible that the favorable opinion I have of the medical profession is due to my exceptionally favorable experience with my colleagues. God gives us our relatives, our friends we choose ourselves. But I can truthfully say that the physicians whom *I* call friends are not guilty of the things with which our opponents are fond of charging the medical profession. I can sincerely say, that the physicians whom I know, are noble-minded and sincere, are always studying and investigating, are sympathetic with the suffering, are up to the minute with all the latest advances in medicine, are careful and conscientious in diagnosis, are rational in their treatment, using drugs only where distinctly indicated, employing every hygienic measure, relying, to a great extent on good nursing and dieting, and upon the vis medicatrix naturae, never prolonging a disease, never making an unnecessary visit, never operating or advising an

operation unless positively indicated—in short, they are honest, capable men to whom the public can entrust their bodies with implicit confidence. Of course there are incompetents, and there are dishonest men in the medical profession, as there are in every profession, in every trade, in every line of human activity. But when we judge of a profession we judge it by its highest representatives, or at least by the rank and file, but certainly not by its worst specimens. And the rank and file of the medical profession is sound to the core. It is sincerely desirous of learning and advancing, it is sincerely desirous of doing its best for humanity. It reads, studies and investigates and is earnestly doing the best that can be done.

THE SPECTRE OF THE 17TH CENTURY.

The trouble with our friends is that they set up a man of straw and then proceed to demolish him. They see a medical spectre of the 17th or 18th century and imagine that that is the physician of to-day.

Just as some of our free-thinking friends see a Torquemada in every priest or minister—they will not admit that there are quite a few decent people among the clergy of to-day, people with broad minds and big hearts, intensely interested in the welfare of humanity; just as our anarchistic friends still see a Philip the Second or an Ivan the Terrible in every ruler—you cannot make them believe, for instance, that George V. and William H. Taft are quite human, and, while certainly no geniuses, are at least as intelligent as the average Englishman or American—so our anti-medical friends see with their mental eye an old, bewhiskered gent (Elbert Hubbard who has become one of the most obnoxious of quacks always pictures the doctor as a man with whiskers) with a big syringe, with a blood-letting lancet, with chisel and saw, with powerful emetics and cathartics, with balls of opium and pocketfuls of calomel; a gent without any culture, narrow-minded and hidebound by tradition, without any knowledge of hygiene or sanitary measures, having no idea of ventilation, fresh air, dietetics, the power of suggestion and the other immaterial agencies. Such is the picture some of our friends have of the modern medical man, or at least that is the picture they try to show to a gullible public —and they proceed to hammer it, stab it, tear it to shreds and tatters and to show to the same gullible public their own superiority. No wonder they succeed.

That the picture is false and distorted—maliciously or ignorantly—goes without saying. The physician of to-day is a cultured man with a good preliminary education—and the entrance requirements are getting higher and higher—a good medical education, and he is a critic, a skeptic and quite often he is a true scientist.

That we do not yet know everything, that some diseases, cancer for instance, still baffle us, is true. But there is a great difference between not knowing everything and knowing nothing, and as said before, every year we learn a little more. But one thing is sure: What WE can't do, the quacks and irregulars surely cannot.

WHAT WE HAVE ACCOMPLISHED.

I have touched upon and answered the charges which our enemies are making against us. Let me now devote two or three minutes to a consideration of the benefits which we have conferred upon humanity, but which our enemies forget to credit us with. To state that medicine is advancing from year to year, and that from year to year we are improving in our diagnosis and treatment of individual patients must be in the nature of a mere assertion, for our enemies deny it. There are two things, however, which they cannot deny—for the *world* has them on record.

One is that wherever medical science is in an advanced state the mortality rate has been enormously reduced. The second is that by having conquered the mysteries of the transmission of malaria and yellow fever, and by applying rigid sanitary measures, we have rendered many tropical and subtropical places habitable which were uninhabitable before, and have converted many pest-holes into the healthiest spots on the globe.

Let us see what the reduction of the mortality rate means. I shall not go very far back, though the figures would prove more striking and more startling. But right here in New York City we have within the last fifteen years reduced the death rate per 1,000 inhabitants from 25 to 16. In other words, instead of 25 people dying every year per each 1,000 inhabitants, only 16 die—a saving of nine per thousand

—or 9,000 per million, or 36,000 per four million—the population of New York City. What an annual saving of human lives it makes throughout the country or throughout the civilized world you can calculate for yourselves. For everywhere is the same story. In Berlin, for instance, the mortality rate fell in 25 years from 33 to 16—a saving of more than 50 per cent; in Munich from 41 to 18 and so forth and so forth. Our statisticians are in the habit of estimating the value of human lives in dollars—at such an age we are worth so much, at such an age so much. To me this method is rather revolting—revolting in itself, and because in my opinion many lives are worth nothing, others are worth less than nothing, in other words, have a negative value, while others are worth not four thousand dollars—which is the highest value put on a human being by the political economists—but forty millions. But if you are fond of estimating the value of human lives in dollars, you can readily see how many billions we save to the world every year.

As to the places which have been converted from pest-holes into summer resorts, with summer resort mortalities, we need only point to Panama. And it is not the quacks and the detractors of scientific medicine who have done it, but the regular physicians and the sanitarians who work hand in hand with us.

CONCLUSIONS.

1. The medical profession of the present day is fully alive to its duties and its responsibilities.

2. Medicine of to-day is thoroughly scientific in its methods, employing the same means of experimental investigation and demonstration as are employed by the other exact sciences.

3. Medicine of to-day is not shackled by the chains of authority and tradition. On the contrary, every dictum of any so-called authority, any statement regarding any drug or method of treatment, which has been handed down for ages from text-book to text-book, is called into question, is carefully analyzed and dissected, and if found wanting, discarded. Many drugs which were considered standbys by our forefathers have been thrown out from the Pharmacopeia, though they may still be used by old grannies.

4. The profession of to-day is broad-minded and is willing to investigate any remedy or method of treatment, no matter from what source it may come; it is willing to give a trial to any suggestion if it has a grain of common sense in it; even if the suggestion comes from a quack.

5. The evils which the medical profession is guilty of are not inherent in the medical profession as such; they are the result of our social conditions, of our immoral competitive system, which makes men fight and cut each other's throats in order to make a living, and these evils are much more in evidence in other trades and professions; the legal profession for instance.

6. The medical profession not only does its duty by the public, alleviating suffering, restoring hundreds of thousands of men and women to health and active useful lives, but we are making progress from year to year, we are making new discoveries, dealing with the larger problems, increasing the average duration of life, improving sanitation, etc. In short, we deal now not only with individual, but with national problems.

7. In judging of the life of any man, of the activity of any party, of the value of any movement, of the achievements of any profession, we do not take any single acts or incidents, but we take the sum total. If we take the sum total of the activities of the medical profession, if we subtract all its shortcomings, if we admit even everything our enemies say about us, the balance of good is overwhelmingly in its favor, and it can truthfully be said to be the most beneficent, the most progressive, the most humane and the most altruistic of all professions.

And therefore to the question: What is the matter with the doctors? I must answer:

There is nothing the matter with the doctors. They are all right!

TUBERCULIN TEST IS DEMANDED OF CATTLE.—The Utah state fair is the first in the country to insist on the tuberculin tests being put to cattle before they are allowed to be exhibited. Other fair managements have discussed the matter, but have never adopted the plan. The Utah fair decided on this idea after a consultation with the state board of health and the local United States bureau of animal industry. Of all the cattle entered this year, only two were barred because of infection. One of these was a registered imported cow from the Isle of Jersey, valued at $250. She will have to be killed.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D.,
B. H. STONE, M. D., } .....*Editors.*

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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, Incorporated.

BURLINGTON, VT., MAY 15, 1911.

EDITORIAL.

The increase in the number of diseases which physicians are required to report to the health authorities is, we fear, often met by indifference or actual irritation, on the part of the physician. From his point of view, this seems a troublesome and unnecessary bit of red-tape but a little thought will surely convince him that these requirements are based on sound reasoning and that he owes this much to the public whom he serves and who in turn have conferred upon him special privileges as, for instance, exemption from jury duty.

A renaissance in health seems at hand. The public has never before shown so much interest in general health matters. The possibilities of preventing sickness and prolonging life are beginning to be keenly appreciated. Much of the interest in such problems and certainly all efforts for the consummation of such hopes depend upon the knowledge of conditions as they actually exist. Failure on the part of a physician to report a case of typhoid fever or tuberculosis, as well as the more acute quarantinable diseases, may often be directly accountable for other cases. The law is specific in these matters providing a penalty if a physician fails to report his communicable diseases, but farther than this criminal action, the doctor becomes himself civilly liable for damage if it can be shown with measurable certainty that cases of disease have been contracted from other cases which he failed to report and which were consequently not placarded. The reputable conscientious physician should need none of this incentive to make him discharge his duty in this matter but there is great carelessness in such reporting which we are fain to excuse as thoughtlessness on the part of the practitioner. It certainly can not be malicious and a mere suggestion of the possible far-reaching disastrous results from such failures should be all that is necessary to remedy the difficulty.

We are publishing in this issue the complete text of the new Owen Bill to establish a department of public health.

This bill is a modification of the one introduced in the Sixtieth Congress and which met with such bitter opposition. The present bill known as Senate Bill No. 1 has been modified to meet the objections of the opponents of the former bill. A large part of this opposition had its basis in the fear, real or feigned, that it was an attempt to interfere with medical freedom. The present bill carries provisos expressed in section three which should amply reassure anyone on this subject.

Of course it is not to be expected that this will silence the opposition as most of it was led by the proprietary association who used the sincere objectors as mere puppets to their own mercenary interests. In making the new bill specific on these points concerning which there

might be an honest misunderstanding the foundation of these objections, has been taken away, and the enemies of the bill will have to change their front. We thoroughly believe in the principles of this bill and consider it a distinct advance in the ends of public health.

S. 1.
62ND CONGRESS, 1ST SESSION.

IN THE SENATE OF THE UNITED STATES.
April 6, 1911.

MR. OWEN introduced the following bill; which was read twice and referred to the Committee on Public Health and National Quarantine.

A BILL TO ESTABLISH A DEPARTMENT OF HEALTH, AND FOR OTHER PURPOSES.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That there be at the seat of government an executive department known as the Department of Health, and a Director of Health, who shall be the head thereof; and the provisions of title four of the Revised Statutes, including all amendments thereto, are hereby made applicable to said department. The Director of Health shall be appointed by the President, by and with the advice and consent of the Senate, at a salary of —— dollars per annum and with tenure of office like that of the heads of the other executive departments. And said director shall cause a seal to be made for the Department of Health, of such device as the President approves, and judicial notice shall be taken of said seal.

SEC. 2. That there be in the Department of Health an assistant to the Director of Health, designated and known as the Commissioner of Health, who shall be a skilled sanitarian, appointed by the President, by and with the advice and consent of the Senate, who shall serve at the pleasure of the President, and who shall receive a salary of ——— dollars per annum. The Commissioner of Health shall perform such duties as are required by law and such as are prescribed by the Director of Health. There shall be also a chief clerk, a disbursing clerk, and such other employees as Congress may from time to time authorize. The Auditor for the State and Other Departments shall receive and examine all accounts of moneys paid in and of moneys expended on account of the Department of Health, and shall certify the balance arising thereon to the Division of Bookkeeping and Warrants of the Treasury Department, and forthwith send a copy of each such certificate to the Director of Health.

SEC. 3. That it be the province and duty of the Department of Health to foster and promote all matters pertaining to the conservation and improvement of the public health and to collect and disseminate information relating thereto: *Provided*, That this Act shall not be construed as attempting to authorize the Department of Health to exercise or attempt to exercise, without express invitation from the chief executive or other proper authority of the State, any function belonging exclusively to such State, or to enter any premises in any State without the consent of the owner or occupant thereof; but the Director of Health, upon request of the chief executive or other proper authority of any State, Territory, the District of Columbia, or any insular possession, may detail for limited periods an officer or officers, employee or employees, from the Department of Health to assist the health authorities of such State, Territory, District, or insular possession in protecting and promoting the health of the people of such jurisdiction: *And provided further*, That the Department of Health shall recognize no so-called school or system of medicine.

SEC. 4. That to the Department of Health are hereby transferred the following bureaus, divisions, and other branches of the Government, and all that pertains to them, and they and each of them shall remain under the supervision and direction of the Director of Health until otherwise directed by law, namely:

(a) From the Department of the Treasury is transferred the Public Health and Marine-Hospital Service.

(b) From the Department of Agriculture is transferred that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors, and with the execution and enforcement of the Act of Congress entitled "An Act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and for regulating traffic therein, and for other purposes," approved June thirtieth, nineteen hundred and six.

(c) From the Department of Commerce and Labor is transferred the Division of Vital Statistics, Bureau of the Census.

And the President is hereby authorized to transfer to the Department of Health at any time either the whole or any part, as to him may seem best, of any bureau, division, or other branch of the Government engaged in work pertaining to the public health, except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy.

And each and every function, authority, power, duty, and jurisdiction, of whatsoever character it may be, vested at the time of any transfer aforesaid in the head of the executive department from which such bureau, division, or other branch of the Government is transferred, shall, to the exent to which such function, authority, power, duty, or jurisdiction pertains to such bureau, division, or other branch of the Government, immediately upon such transfer become vested and thereafter remain vested in the Director of Health.

All land, buildings, furniture, apparatus, equipment, and property of whatsoever description, and all official records and papers, in the custody of any executive department from which any bureau, division, or other branch of the Government is transferred as aforesaid and pertaining to the business of such transferred bureau, division, or other branch of the Government, shall at the time of such transfer, or as soon thereafter as practicable, and in so far as such action can be taken without hindering the work of the executive department from which such transfer is made, be given over into the custody of the Department of Health. And all unexpended balances of appropriations available at the time of such transfer for the use of any such transferred bureau, division, or other branch of the Government, or which may become available thereafter, shall be and remain

available, in similar manner and to the same extent as if no transfer had been made.

Sec. 5. That within the Department of Health there shall be the following bureaus:

(a) Bureau of Sanitary Research; (b) Bureau of Child Hygiene; (c) Bureau of Vital Statistics and Publications; (d) Bureau of Foods and Drugs; (e) Bureau of Quarantine; (f) Bureau of Sanitary Engineering; (g) Bureau of Government Hospitals; (h) Bureau of Personnel and Accounts. And the Director of Health is hereby authorized to arrange and rearrange from time to time, with the approval of the President, the functions, duties, personnel, papers, records, and property, and the work, resources, and equipment generally, coming into the jurisdiction and control of the Department of Health by the operation of this Act, so as most efficiently and economically to organize and maintain the several bureaus herein named and such divisions and offices thereof as to said director seems proper; but in arranging and rearranging the personnel, the rank, pay, and allowances of the officers of the Public Health and Marine-Hospital Service commissioned at the time of the transfer of that service to the Department of Health shall not, by reason of anything in this Act contained, be diminished. And the Director of Health may call upon the heads of other executive departments for information in their possession whenever such information is needed for the efficient and economical working of the Department of Health.

Sec. 6. That the President is hereby authorized to detail officers and employees from any of the several executive departments of the Government for duty under the Director of Health when so requested by said director, and to detail officers and employees in the service of the Department of Health to any of the other executive departments upon request of the head of such department, provided such detail can be made without prejudice to the public service, to carry into effect the purpose and intent of this Act; but officers and employees so detailed shall receive no additional compensation, but shall be paid such actual and necessary expenses as they incur in the discharge of their duties.

Sec. 7. That the Director of Health may, in his discretion and with the approval of the President, appoint an advisory board of not more than seven members, to confer with him upon his request, from time to time as he deems necessary, concerning the work of the Department of Health and the health of the people. The members of said board shall be selected because of their special knowledge of matters relating to the public health, and each shall hold office for a term of seven years or until his successor is appointed, except that the appointments first made, and appointments thereafter made to fill unexpired terms and terms of members who have held over beyond the periods of their original appointments, shall be made so that not more than one member shall retire during any one fiscal year. No member of any such advisory board shall receive any compensation for his services, but each shall be paid all actual expenses necessarily incurred in the discharge of his duties. And from and after the passage of this Act the Advisory board for the Hygienic Laboratory created by section five of an Act entitled "An Act to increase the efficiency and change the name of the United States Marine-Hospital Service," approved July first, nineteen hundred and two, be, and the same hereby is, abolished.

Sec. 8. That the Director of Health may, whenever in his judgment public interests would be promoted by so doing, invite the duly constituted health authorities of all or of any of the States, Territories, the District of Columbia, and insular possessions as to him may seem advisable, each to send one delegate to confer with him or his duly appointed representative or representatives and with each other, at such time and place as he may designate, concerning any particular matter or matters relating to the public health; and it shall be the duty of the Director of Health, upon the written application of the duly constituted health authorities of not less than five States, Territories, the District of Columbia, or insular possessions, stating the particular matter or matters which it is desired to consider, to appoint a time and place, and to call a conference of the health authorities of the States, Territories, the District of Columbia, and insular possessions that united in the request therefor, and personally or through his duly appointed representative or representatives to be present at such conference, but every State, Territory, the District of Columbia, and insular possession shall be notified of every conference, and if practicable be afforded an opportunity of being present and participating in its proceedings. And from and after the passage of this Act annual and other conferences of State and Territorial boards of health, quarantine authorities, and State health officers, provided for by section seven of an Act entitled "An Act to increase the efficiency and change the name of the United States Marine-Hospital Service," approved July first, nineteen hundred and two, be, and the same are hereby, abolished.

Sec. 9. That, except as expressly provided in this Act, nothing herein contained shall be construed as limiting or abrogating any function, right, or duty imposed by law upon any existing bureau, division, or other branch of the Government; but such bureaus, divisions, and other branches of the Government as are by this Act or by authority thereof transferred to the Department of Health shall continue, under direction of the Director of Health, to have such functions, duties, and rights as they have at the time of such transfer; and in the case of such bureaus, divisions, and other agencies of the Government as are transferred in part only, the part not transferred shall continue to have and to exercise all such functions, duties, and rights, except such as specifically relate to the part transferred to the Department of Health, in the same manner and to the same extent as if no such transfer had been made.

Sec. 10. That the Director of Health shall annually submit to Congress a report in writing showing the operations of the Department of Health during the last preceding fiscal year, which report shall give an account of all moneys received and all moneys disbursed on account of such operations. He shall make such other reports from time to time as may be required by the President, or by either House of Congress, and such as are in his judgment necessary or expedient.

Sec. 11. That ——— dollars be, and the same are hereby, appropriated to carry into effect the provisions of this Act, out of any money in the Treasury not otherwise appropriated.

Sec. 12. That all Acts and parts of Acts contrary to the provisions of this Act or inconsistent therewith be, and the same are hereby, repealed.

Sec 13. That this Act shall take effect on and after July first, nineteen hundred and twelve.

Our attention has been called to the fact that in the January issue of the Journal some "Don'ts for the Doctor" should have been credited to the *Physicians' Business Journal* of Philadelphia. This failure to credit this excellent journal was an oversight which we regret.

The following letter has been issued to the physicians of the State Medical Society by the recently appointed Medico-Legal Committee.

VERMONT STATE MEDICAL SOCIETY.
MEDICO-LEGAL COMMITTEE.

St. Albans, Vt.

Dear Doctor:

At the last session of the Vermont State Medical Society, the Constitution and By-Laws were so amended as to allow the Society to protect its members when sued for malpractice, and a fund was provided for this purpose. A committee known as the Medico-legal Committee, was elected by the House of Delegates, and the work is to be undertaken at once.

The prime object of this Defence Fund is to decrease and discourage litigation, and to effect a better feeling and understanding between physicians themselves and the general public. We do not in any way propose to aid in defeating any just claim which any person may have against any member of the Society, but simply to protect our members from unjust suits. Nine-tenths of the suits for malpractice are nothing more or less than attempt at blackmail, and just here lies the necessity of maintaining this fund. The great majority of these cases are brought without a notion of bringing them to a completion, but simply to extort money from the physician who many times will submit to such extortion rather than be subjected to the publicity of the trial. Every member of the Society, whether he himself be sued or not, is interested in these cases. One successful attempt leads to another, and the expense of making a defence is oftentimes a great burden to the physician.

In other States, the protection of physicians through this State Defence Fund, has been successful. Experience shows that fewer threats have been made, and that still fewer cases have been brought to trial, and very seldom has a case been decided against the physician.

This Defence Fund is available for protection in civil malpractice suits only; and no member will be defended who is in arrears for dues after October 1, 1910; nor is it available for any case, the cause of action of which arose while such member was in arrears; nor for any case against any member threatened or sued before joining the Society; nor for a cause arising prior to the inauguration of this work; October 13, 1910.

The Society will pay all costs of the defence of such a suit, including all necessary court, attorney, and witness fees, provided the terms of this proposal are complied with by the defendant; but the Society will not pay damages in any event, nor any award or compromise through settlement, effected outside of court, either with or without their consent and advice. However, the case will be carried through the highest courts of the State, if legal grounds therefor appear.

Experience shows that many malpractice suits arise out of a controversy over bills for services. It is manifest that the Medico-legal Committee cannot interest itself in the mere collection of accounts, nor that the proceeds of the Defence Fund should be used for this purpose. Therefore, it is the judgment of the Committee that in all cases where there is any serious controversy about a bill for service, the doctor ought to submit the matter to the Committee before action is begun, in the hope that advice from our attorney might prevent the precipitation of a counter-suit for malpractice, which would have for its object the mere evading payment of the bill for services.

As soon as an action is commenced, or a member threatened, he must make immediate written communication with the Secretary of the Committee, giving a full report and a complete statement of all the facts in the case. The case will at once be considered by the Committee and its attorney, and immediate steps for defence in best interests of the applicant made. An applicant for defence must sign an authorization for the Society to defend the action through its attorney, and an agreement contained therein, expressing the additional terms and conditions governing and limiting this proposal.

It is manifest that the best and largest results from the Defence Fund cannot be obtained in a single year, but we hope that this Medico-legal Committee may become one of the most valued parts of our State Organization. Your Commit-

tee assure you that they will in every way, do their best for the good of the Vermont State Medical Society, and they heartily bespeak your cooperation and assistance in the performance of their work.

Very sincerely yours,

J. N. JENNE, M. D. Chairman,
272 Main St., Burlington Vt.

WM. LINDSAY, M. D.,
26 Barre St., Montpelier, Vt.

EDWIN A. HYATT, M. D., Sec'y.,
29 Bank St., St. Albans, Vt.

} Medico-legal Committee.

WARREN R. AUSTIN, Attorney,
St. Albans, Vt.

TREASURY DEPARTMENT.

BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

Washington, D. C., April 5, 1911.

A board of commissioned medical officers will be convened to meet at the Bureau of Public Health and Marine-Hospital Service, 3 B street SE., Washington, D. C., Monday, May 22, 1911, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service.

Candidates must be between 22 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

The following is the usual order of the examinations: 1, physical; 2, oral; 3, written; 4, clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination in the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital, and when practicable, candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority and after due examination as vacancies occur in that grade.

Assistant surgeons receive $1,600, passed assistant surgeons $2,000, and surgeons $2,500 a year. Officers are entitled to furnished quarters for themselves and their families, or, at stations where quarters can not be provided, they receive commutation at the rate of thirty, forty, and fifty dollars a month according to grade.

All grades above that of assistant surgeon receive longevity pay, 10 per cent. in addition to the regular salary for every five years' service up to 40 per cent. after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address "Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C."

NEWS ITEMS.

At a meeting of the New York Society of the American Urological Association, held on April 5th at the New York Academy of Medicine, the following resolution was adopted endorsing the action of the Board of Health in passing a resolution declaring the need of the sanitary control of venereal diseases for the protection of public health:

Whereas, The Board of Health of the City of New York at its meeting on April 4th, 1911, has declared the sanitary control of venereal dis-

eases to be necessary for the protection of the public health and has directed its medical advisory board to formulate a definite and comprehensive plan for the control of these diseases, and

Whereas, said board also has asked the Board of Estimate for an appropriation for a hospital for the treatment of venereal diseases,

Resolved, That this society endorses the action of the New York City Board of Health as cited above, and congratulates the board upon this first step towards placing venereal diseases upon the same basis as other communicable diseases.

Word has been received of the death on April 25th of the wife of Dr. Arthur E. Platt, formerly of Burlington, now of Riverside, R. I.

Dr. Walch and wife of West Burke started recently for their ranch in the west, where they go to spend the summer.

There is a vacancy in the medical and surgical clinic of the Washington Heights Hospital, which is held on Tuesdays, Thursdays and Fridays, from 2 to 4 p. m. Applications should be sent to Dr. L. Neuwelt, 2424 Seventh Avenue, New York.

A two million dollar tuberculosis fund has been established by James A. Patten of Chicago, who has made money and fame as a speculator in grain and cotton. Mr. Patten has given half a million dollars to the Northwestern University to be expended for medical research into the question of the prevention and cure of tuberculosis, and it is reported that he is to increase this fund to two million dollars and that he will himself devote personal attention to the administration of the fund. Mr. Patten's interest in this particular field of work is said to be due to the fact that his brother died of tuberculosis after suffering for many years.

According to newspaper reports residents of Yonkers are becoming alarmed over the large number of cases of rabies in that place, and this uneasiness was increased when information came from the New York Board of Health that thirteen persons from Yonkers had received treatment for rabies during the past two months. The most drastic measures will be adopted in an effort to stamp out the trouble. The mayor has already issued a proclamation barring all dogs from the streets unless muzzled or on a leash and two additional dog catchers have been appointed.

The annual banquet of the Connecticut River Valley Alumni Association of the University of Vermont Medical Department at the Worthy Hotel, Springfield, was attended by 15 physicians, who partook of an excellent dinner, renewed acquaintance and formulated plans for helping their alma mater. Dr. H. C. Tinkham, dean of the college, was the speaker of the evening, and he set forth in a brief address what the medical school of the University of Vermont has accomplished and what it stands for. Dr. J. B. Wheeler of the chair of surgery in the university, also spoke briefly and every alumnus present was called upon. Great changes have been made in the university in the past 10 years, Dr. Tinkham stated, and the alumni who have not returned to visit their alma mater since graduating will find better buildings and better equipment throughout. The death of the late President Buckham was spoken of as marking an epoch in the history of the institution, and his great work in clearing the university of debt and obtaining an endowment for it was appreciatively mentioned. The alumni were urged to give their loyal support to the university, as the success of the institution depends upon them. The faculty of the school were characterized as leaders and the alumni as pushers, and it was pointed out that both must work together to accomplish things for the best good of the university. The officers elected for the coming year were as follows: President, Dr. V. J. Irwin, '94, of Springfield; vice-president, Dr. C. W. Jackson, '84, of Monson; secretary and treasurer, Dr. C. J. Downey, '94, of Springfield. Those present were: Dr. J. M. Fay, '75, of Northampton, Dr. W. A. Smith, '82, of Springfield, Dr. C. W. Jackson, '84, of Monson, Dr. D. M. Ryan, '84, of Ware, Dr. C. E. Holton, '92, of Springfield, Dr. T. Rice, '93, of Brattleboro, Vt., Dr. P. Plummer, '94, of Hartford, Ct., Dr. D. E. Harriman, '98, of South Hadley Falls, Dr. R. A. Kinloch, '03, of Springfield, Dr. J. C. Wilson, '04, of Hartford, Ct., Dr. H. P. Greene, '08, of Brattleboro, Vt., Dr. E. V. Farrell, '10, of Springfield, Dr. I. R. Calkins of Springfield.

The annual meeting of the New Hampshire State Medical Society will be held at Concord, May 11-12.

The annual meeting of the Connecticut State Medical Society will be held at Hartford, May 24-25.

A meeting and luncheon of the University of Vermont Alumni Association of southern California was held at the University Club in Los Angeles, Cal., on Monday, April 10. A good number of Vermont graduates gathered to greet the guest of the occasion, the Hon. C. P. Smith, treasurer of the University, who addressed the graduates in a most interesting manner upon the subject, "The University of Vermont of Today." Treasurer Smith's statement of the progress now being made by the university was listened to with much pride and enthusiasm by the graduates of the "Green Mountain College." Dr. L. M. Bingham was also a distinguished guest at the luncheon. Among those present were: The Hon. Julian Phelps, '64; Charles P. Nichols, '74; Dr. C. W. Allen, '79, medic, '82; Hervey J. Nichols, '81; Allan P. Nichols, '89; Charles P. Frissell, the Rev. W. A. Brown, '94; the Rev. Kendall Severance, '02; Dr. A. Halden Jones, '03; Lucius H. Jones, '04; H. L. Adams, '06; H. O. Wheeler, Jr., '04. At the same time the University of Vermont luncheon was being held the Dartmouth Alumni of southern California were having a similar luncheon at the University Club, and a pleasant feature of the occasion was the exchange of mutual felicitations between the two organizations. In response to the greetings sent by the Vermont alumni the Dartmouth alumni returned the following very pleasant expression of brotherly feeling:

"While in dignity of expression, we of Dartmouth find it difficult to equal the kindly message of our brothers of Vermont, in warmth of sentiment and fraternal feeling toward them we hold ourselves the equals of any. For the long continued usefulness and success of your association we extend to you our heartiest good wishes. The fellowship of college men in our city is the stronger for its existence.

By unanimous vote of the Dartmouth Alumni Association of southern California.

HENRY K. NORTON, Sec'y.

University Club, Los Angeles, April 10, 1911.

Dr. S. Mitchell has removed from South Strafford to West Hartford, Vt., taking the practice vacated by Dr. H. S. Herrick.

Dr. Geo. G. Kelley from Elizabeth, N. J., has taken Dr. A. N. Logan's practice at Woodstock, Vt. Dr. Logan is in California.

Dr. R. F. Oliver, who has been at Enfield, N. H., recently, has removed to Warner, N. H.

Dr. H. J. Howard has left Roxbury, Vt., and gone to Waitsfield to practice.

Dr. M. O. Eddy of Readsboro has removed to Jericho to take the practice recently vacated by Dr. H. D. Hopkins.

The 42nd Annual Meeting of the American Medical Editors' Association will be held at the Alexandria Hotel, Los Angeles, Cal., June 26th and 27th, under the presidency of Dr. J. MacDonald, Jr. Unusual efforts are being made for this annual convention and members are urgently solicited to be present. Plans already matured enable the Executive Committee to assure those who will attend a most interesting session both from a literary as well as a social viewpoint.

THE ITINERARY TO LOS ANGELES AND RETURN.

In charge of Jos. MacDonald, Jr., M. D., New York. American Medical Editors' Association. American Medical Association.

No. 1.—Leave New York Wednesday, June 14th, 12 o'clock noon from Pier 48 NR. foot of West 11th St., on one of the magnificent steamers of the Southern Pacific Co., due to arrive at New Orleans Monday, June 19th. Stopover at New Orleans, two days sight-seeing in this quaint city. Leave New Orleans, Sunset Express, Wednesday, June 21st. Arrive in Los Angeles, Saturday, June 24th.

No. 2. Leave New York Saturday, June 17th, 12 o'clock noon from Pier 48 NR., foot of West 11th St., on one of the magnificent steamers of the Southern Pacific Co., due to arrive at New Orleans Thursday, June 22nd, at 10 a. m. Stopover at New Orleans, one day. Leave New Orleans, Friday, June 23rd. Arrive in Los Angeles, Monday, June 26th.

RETURN TRIP FROM LOS ANGELES OR SAN FRANCISCO.

Passengers holding round trip tickets will have the privilege of returning by way of San Francisco or Portland, via any direct route. These tickets will be valid for return passage up to and including Sept. 15th.

Southern Pacific representatives are prepared to give information in regard to side trips into Yosemite National Park, Yellowstone Park, etc., and if desired assist in arranging an itinerary over the various routes selected for the return trip.

Members and their friends contemplating taking this trip will please communicate with Mr. L. H. Nutting, G. P. A., Atlantic Steamship Lines, 366 Broadway, N. Y. City, or the President of this Association.

Dr. Thomas and Dr. Brown have recently settled in Enosburg Falls, Vt.

OBITUARY.

Dr. Mozark Jenkins, University of Vermont, College of Medicine, 1884, a member of the Medical Society of New Jersey, died at his home in Trenton, N. J., March 19, from laryngitis, aged 55 years.

BOOK REVIEWS.

THE CARE AND TRAINING OF CHILDREN.—By Le Grand Kerr, M. D., Brooklyn, N. Y. Funk & Wagnalls Company. Price, 75 cents net.

The children of to-day are the men and women of to-morrow. The future of society and the nation depends largely upon these prospective citizens, therefore no subject can be of more importance than this pertaining to children. This little book purports to give the facts and principles of value in the training of the child in such a way as to be easily available to the parent. It takes up in separate chapters the child, the room, clothing, diet, bathing, sleeping, bowels, with weight and height, education, relation between parent and child, training a nervous child, the sex question, evil habits and other suggestions; twenty-one chapters in all with marginal headings, all written in a simple easy manner with illustrations.

DIFFERENTIAL DIAGNOSIS.—Presented through an Analysis of 383 cases.—By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 753 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

This book presents a thorough analysis of three hundred and eighty-three cases examined by the author grouped under the prominent symptoms presented by the patient. It is thoroughly cross-indexed. It is a valuable work for the teacher and an object lesson to the general practitioner in early methods of diagnosis. The author is delightfully frank in acknowledging his own errors.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL. Mayo Clinic, Rochester, Minnesota, 1905-1909.—Octavo of 668 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

The tremendous opportunity for observation of surgical cases together with the marvelous system or organization in the clinic, making available every feature of the history of these cases, makes any communication from Rochester of great value. This book is, in the words of the authors, an indexed collection of reprints.

PROGRESSIVE MEDICINE, Vol. I, March, 1911. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 355 pages, with 18 engravings. Per annum, in four paper-bound volumes, containing over 1,200 pages, $6.00 net; in cloth, $9.00 net. Lea & Febiger, Publishers, Philadelphia and New York.

PRACTICAL TREATMENT, Volume II.—A Handbook of Practical Treatment. In three volumes. By 79 eminent specialists. Edited by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M. D., Assistant Professor of Medicine, University of Pennsylvania. Volume II: Octavo of 865 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Per volume, $6.00 net; Half morocco, $7.50 net.

The second volume of Practical Treatment has just come from the press. It takes up the discussion of Cardio-Vascular disease, all the contagious diseases including Venereal and Tropical diseases, Rheumatism, Toxemia, Septicemia and Pyemia. The list of contributors includes a large number of the best known medical men in this country who are working along special lines of medical research.

This work is largely confined to treatment, although each disease is discussed briefly. It is a compilation of monographs on treatment by men

who are specialists in the diseases which are considered. For this reason it must be of the greatest value to the general practitioner.

INTERNATIONAL CLINICS, a Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and Other Topics of Interest to Students and Practitioners.—By Leading Members of the Medical Profession throughout the world. Edited by W. T. Longcope, M. D., Philadelphia, U. S. A., with the collaboration of Wm. Osler, M. D., John H. Musser, M. D., A. McPhedran, M. D., Frank Billings, M. D., Chas. H. Mayo, M. D., Thos. H. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D., Richard Kretz, M. D. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Liepsic, Brussels, and Carlsbad. Vol. I, Twenty-first Series, 1911. Philadelphia and London: J. B. Lippincott Company. Price, $2.00.

This volume contains many articles on subjects of special interest as pellagra, poliomyelitis, infant feeding, refraction by the general practitioner, and mosquito work in the canal zone. There is also a resumé of the advance that has been made during the year in Treatment by Stevens, Medicine by Musser, and Surgery by Bloodgood.

This is a volume full of practical work by representative men.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

CARCINOMA OF THE CECUM.

J. FRANK, Chicago, (*Journal A. M. A.*, February 11), reports a case of cecal carcinoma involving also the appendix and adjacent glands. The macroscopic examination was made by laparotomy. The mass was removed with resection of three inches of the ileum and about six inches of the ascending colon, the cut ends being inverted and closed as in appendicitis. The anastomosis was made by the lateral method and the wound drained with gauze and guttapercha. A cecal fistula developed from the inverted ileum on the tenth day after the operation, but closed at the end of the fourth week. With this exception the recovery and convalescence were uneventful. Microscopic examination showed the growth to be an adenocarcinoma, but it was not possible to state whether its origin was in the cecum or in the appendix.

MAMMARY AND DERMAL LEUKEMIA.

C. DENCKER, Chicago (*Journal A. M. A.*, February 11), reports a case of leukemia, in a woman, presenting some rare features, such as lymphatic infiltration of the lips, nose and pinna, and a most remarkable involvement of the mammary glands, which he has been unable to find described in the literature. The trouble began with itching of the nose, followed by redness and swelling of the nose and lips, diagnosed by various physicians as cold and eczema, and so treated. The patient's previous health had been good. All the superficial lymph glands of the body were enlarged more or less, the least in the neck glands. The breasts were symmetrically enlarged, firm and infiltrated. The blood-count showed 110,000 white cells, 82 per cent. small and 6 per cent. large lymphocytes and a moderate secondary anemia. The patient suffered much discomfort from dyspnea, and tracheotomy was not thought advisable. Necropsy showed the usual lesions of ordinary lymphatic leukemia, lymphoid infiltration of the viscera and of the skin of the nose and lips. The mammary glands were replaced by a mass of lymphoid tissue of uniform consistence, the normal tissue having disappeared almost entirely. A full report of the anatomic findings will be published in the *Transactions of the Chicago Pathological Society.*

SALVARSAN TECHNIC.

A long list of "don'ts" in the use of salvarsan are given by J. F. Schamberg and N. Ginsburg, Philadelphia (*Journal A. M. A.*, February 4). These, slightly abbreviated, are as follows: 1. Don't use salvarsan in mild carditis, advanced tabes and paresis, syphilis of nervous centers, in grave kidney disease, in cachexia or marked debility, unless due to syphilis, in aneurism, optic neuritis or in persons with lesions (such as gastric ulcer) where increased blood-pressure may produce hemorrhage. 2. Don't use intravenous injections of salvarsan until you have fully qualified yourself to do so. 3. In the preparation for the intravenous injections do not use common salt solution or undistilled water, but have all materials chemically pure and sterile; otherwise you may not have a clear solution. 4. Don't under any circumstances inject a solution which is not perfectly clear. 5. Don't use a solution any more alkaline than is absolutely necessary to secure a clear solution. 6. Don't inject the salvarsan into the vein without previously running in physiologic salt solution. If the needle is not in the vein you will infiltrate the surrounding tissues and cause unnecessary pain and inflammation. 7. Don't infuse the solution into the vein too rapidly. It is best to have a needle of such capacity as will take eight minutes to introduce 200 c.c. of fluid. With the gravity apparatus the rapidity of inflow can be readily governed. 8. Don't infuse a cold solution, but use one about blood-heat. 9. Don't use glass pearls in the mixing jar, as small parts may chip off and cause embolism. 10. Don't use a routine dosage of the drug, but gauge it according to the weight of the patient and the condition to be treated. 11. Don't employ intravenous injection in your office or in dispensary. The patient should be in bed in the hospital and be carefully observed for not less than three days. 12. Don't persist in intravenous injection if the patient shows signs of collapse during administration, but stop at once.

CHANGE OF VOICE.

E. B. Scripture, New York (*Journal A. M. A.*, February 11), gives the treatment of the improperly developed or eunuchoid masculine voice. He says that examination of the larynx in such cases shows the vocal cords to be very shiny and white and apparently very tightly stretched. External examination shows that, in speaking or singing, the larynx is pulled high up under the tongue and often rather forward toward the chin. The condition is evidently due to an overcontraction of both the intrinsic and extrinsic muscles around the larynx, causing overtension of the vocal cords. It is a purely nervous habit. The treatment begins by teaching the person to sing on very low tones. These will at first be harsh and rattling, but will soon become natural. The pitch of the song is gradually raised until the patient sings over the normal range of voice. Another exercise consists in chanting sentences on a single low tone, gradually raised in pitch in successive exercises. A third exercise consists in singing the first word or two of a sentence on a low tone and finishing it by speaking. Exercises in singing and speaking are used with the larynx pressed downward and backward. A cure is generally accomplished in one or two weeks.

ANAPHYLAXIS.

A. E. Taylor, Philadelphia (*Journal A. M. A.*, February 11), reports the case of a physician in San Francisco who performed an autopsy on the first white case of plague that occurred there in the year of 1900-01. After the definite diagnosis of the case as one of plague it was thought advisable to give an injection of the Yersin serum since no precaution had been used in making the autopsy. Four years later, while hunting in the mountains, the physician had trouble in loading a horse with a deer that had been shot and had his hand badly scratched and lacerated by the metal parts of the harness. On his return home a few days later, not being satisfied with the condition of the wounds, he had them thoroughly cleansed and disinfected and received an injection of 20 c.c. of antitetanic serum. After a few hours he was suddenly seized with an attack of giant urticaria, with great swelling and almost intolerable itching, tachycardia and choleric diarrhea lasting three days. On the third day a neuritis developed in the circumflex nerve, followed by wasting of muscles, degeneration reaction and cutaneous anesthesia, the recovery from which has not yet been complete. There was great prostration, due perhaps to the diarrhea. The patient had never had any asthmatic trouble or been in the least "sensitive" to horses, and the case has all the features of an experimental anaphylaxis. As such it is deemed worthy of publication.

BISMUTH IODO-RESORCIN SULPHONATE.

The Journal A. M. A., February 11, contains a report on bismuth iodo-resorcin sulphonate made by the Council on Pharmacy and Chemistry and a contribution from the Association Laboratory on the same subject. The Council having voted to take up the consideration of this product, the Association chemists were requested to investigate the composition of the specimen submitted by the firm whose pharmaceutical preparation contained this substance as an ingredient. The composition of this article, as determined by the chemists, varied widely from the composition that was claimed by the firm. In view of the discrepancies, the Council directed that the chemists' findings be submitted to the firm and an explanation requested. This was done and the firm replied by acknowledging the differences in general, but attacking in many minor ways the findings of the laboratory. The Association chemists now report an exhaustive reexamination of the product in reference to the points involved. This while showing a slight modification of the previous findings, because more refined methods were used, shows on the whole that the firm was grossly ignorant regarding the composition of its product. It also shows that the firm's attack on the chemists' work was without justification.

CREATIN METABOLISM IN CHILDREN.

J. P. Sedgwick, Minneapolis (*Journal A. M. A.*, October 1), has made a chemical physiologic study of creatinin and creatin metabolism in infants, and thinks the study may give interesting results in disease. Although a promising field it has been little worked on. The opinion held until 5 years ago that infants do not excrete creatinin is undoubtedly incorrect. It is present in the liquor amnii, which may mean that its excretion begins before birth, and it is always present in the urine of the first week and in a concentration approximately that of adult urine. Creatin is also excreted during infancy. In later infancy creatinin is uniformly present in the urine, but in much more dilute condition than in adults or during the first week. Analyses of urine in disease indicate that we may hope to get some clue to the processes of nitrogen metabolism by the study of creatinin and creatin.

THE RAINEY-ATKINS TRAGEDY.

A brief description of the causes leading up to the shooting of L. F. Atkins by Dr. James M. Rainey in Chicago is given in the *Journal A. M. A.*, October 1. It appears that Rainey and Atkins had together run a mail-order medicine concern known as the "Dr. Rainey Medicine Company." Frequent quarrels led Rainey to withdraw from the company and open a rival business in the same building under the name "Dr. James M. Rainey, incorporated." The similarity of names caused trouble in the delivery of mail, and Atkins received and cashed a money-order for $5 which was intended for Rainey. When the return of the money was demanded Rainey was accused of having got the name of the "patient" from Atkins' files; he claimed, however, to have purchased the name from a "letter broker." The dispute led to a quarrel which resulted in Rainey shooting Atkins who died shortly afterward. Rainey, who maintained that he shot in self-defense, was exonerated at the coroner's inquest. Various sordid details of the "mail-order medicine" business were brought out at the inquest.

OPHTHALMOLOGY AND PREVENTIVE MEDICINE.

H. Woods, Baltimore, (*Journal A. M. A.*, October 1), considers the role of ophthalmology in preventive

medicine in three phases: (1) Prevention of blindness from infectious diseases and accidents; (2) prevention of eye deterioration by violation of ocular hygiene; (3) prevention of remote lesions through recognition of early ocular symptoms of systemic disease. Under the first head he mentions ophthalmia neonatorum. In spite of the preventive measures used, he says, the percentage of blindness from infantile ophthalmia is practically undiminished. Several conclusions, he says, are justified: First, an increasing number of women in the poorer classes are employing midwives during confinement. Second, the large majority of midwives are ignorant and incompetent, and third, there are many physicians who fail to use the proper preventive measures. The midwife problem, however, is one that deserves serious consideration. In many foreign countries she has not only legal restrictions, but also educational advantages; not so with us, however. How the problem is to be met he does not say definitely, but he suggests an attack on the conditions through education of the public employing them by social workers whose advice will be taken as coming from disinterested sources. Accidents are treated more briefly, but Woods suggests, as among the means of preventing them, a sane and safe Fourth of July. The various protective devices to safeguard workmen in their employment are to be considered from the industrial rather than from the medical side. School hygiene is taken up. Of no less importance than the examination of pupils' eyes is attention to proper lighting of school rooms, adjustable desks, size of print, character of paper, etc. He recommends the universal adoption of desks adjustable to the scholar's vision as especially important. Children with defective vision suffer from modern school curricula and demands, and with proper treatment can be saved a great deal of future trouble. In conclusion, he mentions functional or organic ocular disorders as symptomatic of systemic disease. Unless the oculist appreciates the symptomatic meaning of the trouble bringing his patient to him, his best work will be nullified. The eye-strain which takes the individual to the optician often means more remote or serious trouble, and mutual cooperation of the internist and the oculist will be of advantage to both.

METABOLISM AND HEART DISEASE.

H. R. Harrower, Chicago (*Journal A. M. A.*, October 1), claims that there is a close relationship between the condition of the buccal mucosa of the gums, teeth and tongue and the blood that nourishes them. He refers to the mouth symptoms in various acute diseases and their diagnostic use, and especially calls attention to the acid index of the urine which, he says, is neglected in most of the textbooks. From his findings he thinks we have conclusive evidence that in the study of the urinary acidity we have something of more than ordinary importance. The relation of his findings—acidemia evidenced by hyperacid urine, intestinal toxemia by indicanuria and decreased metabolic activity by the frequent low urea index reduction in the total solids —to mouth disease is quickly found. The majority of patients suffering from pyorrhea are acidemics, and the therapeutic measures calculated to reduce the acidemia and eliminate the toxemia have a decidedly good effect on the pyorrhea. He hopes that a further study of the subject of the relation between the disturbances of metabolism and the mouth affections will be taken up and carried on by both dentists and physicians.

VITAL STATISTICS.

J. N. Hurty, Indianapolis, in his Chairman's address before the Section on Preventive Medicine and Public Health of the A. M. A. at St. Louis, takes up the study of the importance of the vital statistics (*Journal A. M. A.*, October 1), Besides their importance to the nation as a whole, they have also a value of the greatest moment to the individual. There is hardly a relation, from the cradle to the grave, in which the evidence furnished by accurate vital statistics may not prove of the greatest importance. Their sanitary value, however, is still more important. The connection between the accurate registration of infectious diseases, of all deaths and all causes of deaths, and the practical prevention of disease, is apparent. Like the general of an army, the hygienist must know the position, numbers and character of his enemy to carry on successful battles. There is also the educational value of vital statistics. The people should know the necessity of action against diseases. Low ideals of cleanliness and health, as well as morals, will exist to a greater extent where vital statistics are ignored than where they are actively collected. The duty of the physician to give a correct record of births and deaths is obvious, and the reporting of infectious diseases is also among his highest moral duties, whether it is against the wishes of individuals and must be done gratuitously by himself or not. It is a duty imposed on him when he receives his license to practice. Besides his duty to the public in this regard, he must also consider his duty to the profession and to medical science in general. Two actual instances showing the disadvantages of our imperfect systems of keeping record of births and deaths are given by Dr. Hurty. In one case a child lost an inheritance from abroad that would have put him beyond need and which was urgently needed, for the simple reason that a legal record of his birth could not be obtained. In another case the legal record being lacking, a witness was found that associated the dates of the birth and the birth of a registered calf, the human being thus being dependent on the vital statistics of the animal breeder. The physician, as the representative of the science of medicine, is, save in exceptional instances, the only member of society who can give information in regard to causes of death and infectious disease, and he should not consider his fee earned until he has fulfilled the duty. He should also remember that he is obeying the laws, and that if he fails in this he is not a good citizen.

KIDNEY AND URETERAL STONES.

M. F. Porter, Fort Wayne, Ind. (*Journal A. M. A.*, November 12), discusses the diagnosis and complications of kidney and ureteral calculi and reports a case of interest in which the stone had been carried for 53 years, during which time the patient led a busy life as student, lawyer and jurist. The total weight of stones taken from the ureter was 4 ounces, the largest one weighing 1,420 grains. This is the largest single stone ever removed from the ureter so far as he knows. The first symptoms of ureteral calculus may be referred to the bladder which should always be examined, and a stone found in the blad-

der should always cause search in the kidney and ureter, as calculi are frequently coexistent in both localities. Porter notices the important part played by infection in the etiology of these formations and he thinks that stone in the kidney or ureter as a cause of cancer has received less consideration than it deserves. Cancer with a large stone means that the stone antedated the cancer and might be considered its cause. In the case he reports a carcinomatous growth was found. Most surgeons seem to believe that tuberculosis of the kidney is primary and of hematogenous origin but that trauma is often the exciting cause of tuberculosis is admitted, and these two facts together would seem to indicate that stone might cause kidney tuberculosis. Porter does not, however, favor this idea and an extensive search of the literature, he thinks, does not bear out this assumption. Personally he has seen no coexisting case of stone and tuberculosis of the kidney. Contrary to his former opinion, he finds the *x*-ray of more and more value in the diagnosis and agrees with Bevan that it is a more reliable method of examination than exploratory operation. Careful inquiry in cases of kidney and ureteral stone will reveal important diagnostic points in many cases which the patient would not think to mention. Hence the importance of careful history taking in such cases.

STROPHANTHUS.

Certain phases of the action of the drugs of the digitalis group and especially strophanthus are noticed by R. A. Hatcher and H. J. Bailey, New York (*Journal A. M. A.*, November 12). They specially call attention to the need of some determination of their relative activity. As regards strophanthus and its alkaloids there is especial confusion, and the same thing is true to a lesser extent as regards digitalis. They wish to reiterate their former statement that the clinical use of strophanthus by the mouth is irrational in the present state of our knowledge of the subject. Their experiments, still in progress, seem to show that the absorption of digitalis is also variable, though less so than that of strophanthus. The synergistic action of the digitalis bodies is also noticed. Caffein is also synergistic to the digitalis bodies but they have not determined to what extent. This should be remembered in prescribing digitalis to those who use large amounts of tea and coffee. They conclude that there is no use, in special selection of the members of the digitalis group, to secure any essentially different action until we know more of the different effects of equivalent doses. It is mainly a question of administration. The oral administration will probably continue in favor on account of its convenience, but it cannot be considered as accurate as the intramuscular or intravenous methods, which should be preferred when rapid action is desired. It is only in regard to these also that we have any degree of certainty as to the rate of absorption. Of the two pure digitalis principals, crystalline ouabain and crystalline digitoxin, the latter is insoluble in water, hence the former should be preferred. Both the tincture and infusion of digitalis represent the leaf fully and any idea of difference of action is incorrect. It is also probably an error that therapeutic doses of any of the digitalis bodies exert any appreciable direct effect on the gastrointestinal motor centers. Small doses have been seen to cause emesis and diarrhea after subcutaneous or intravenous injection but they are rarely seen from the oral dose unless it is very large and equivalent to more than a fatal dose by injection. The authors also question the vasoconstrictive action of digitoxin in therapeutic doses. Their conclusions are given as follows: "The intravenous injection of crystalline ouabain affords the most exact dosage possible in digitalis therapy, and the most rapid effect. It is possible that any galenical preparation of digitalis or strophanthus will be found available for intravenous or intramuscular injection, but the activity should be determined in terms of crystalline ouabain on the mammalian heart. The cardiac action of any digitalis body is elicited promptly after the intravenous injection. The oral administration of the digitalis bodies will continue to be preferred for the general treatment of cardiac disease, and in such cases the tincture or infusion of digitalis deserves the preference, because they are more readily absorbed than the preparations of strophanthus. We are in urgent need of more exact clinical studies of all of the digitalis bodies, particularly with regard to their relative effects on the centers and on the vessels, and we are in equally urgent need of further pharmacologic investigations of the rate of absorption and excretion of these several bodies, with an elucidation of the phenomenon of cumulation."

WORK OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

D. L. Edsall, Philadelphia (*Journal A. M. A.*, November 12), describes the work of the Council on Pharmacy and Chemistry, and speaks of its magnitude and of the cordial support given to it by the better part of the profession. The first rules adopted by the Council were found to be not rigid enough, but this was due to the caution which was necessary in the beginning of the undertaking. As soon as it was apparent that the profession demanded the exclusion of preparations of unscientific composition, improperly named or otherwise objectionable, the line was drawn a little stricter, though this necessarily involved much more work. In the beginning the Council devoted itself to the consideration of proprietary drugs alone, but it has gone far beyond this class in the investigation of all substances that are widely used medicinally or have any claims to medical value, but are not in the U. S. P., so that it could give an authoritative statement of their composition, uses, etc., which could not be obtained otherwise. The preparation of the publications, "New and Nonofficial Remedies" and "The Propaganda for Reform in Proprietary Medicines," involved a large amount of chemical investigation, and the regular work of the Council from week to week is no child's play. Each preparation as it comes up is carefully considered in all respects, as well as the methods of its advertisement, and if objectionable features appear they are brought to the attention of the manufacturer and an opportunity given him to conform to the rules. A report is first made by an individual member of the Council, then it is referred to a committee, and finally to the whole Council. Investigations that call for much time and labor are often repeatedly gone over by members of the Council in order to furnish the profession with the real facts and to eliminate all sources of error. As a result, excluding the evil preparations, we have a mine of information which could not be obtained elsewhere in the 250-page book, New and Nonofficial Remedies, which was never before so freely given

Solves the Starchy-Indigestion Problem

The treatment of amylaceous dyspepsia is one of the real problems in therapeutics. Examples of this type of indigestion are numerous. They constitute considerably more than one-half of all the cases of dyspepsia for which the physician is ordinarily called upon to prescribe. Usually they are of an obstinate character—the *chronic* character.

How essential, then, that the prescriber have at his hand a starch-digestant to which he may confidently turn—a digestive ferment that has *proved its eligibility.*

TAKA-DIASTASE

is such an agent. It is one of the most potent of amylolytic ferments—so potent, in fact, that in ten minutes, under proper conditions, it will digest 150 times its weight of starch. It is of value not only in amylaceous dyspepsia, but in various other gastrointestinal ailments—chronic gastritis, for example, and hyperacidity (with or without flatulence). It is successfully administered in infantile diarrhea and dysentery. It is useful to predigest gruels and other starchy foods to render them available in cases of prolonged fever, as typhoid, and other diseases in which broths cause diarrhea.

Taka-Diastase has been successfully prescribed for more than a dozen years—not alone in our own country, but in Europe, Asia, Africa, South America, Australasia, the East Indies—in fact, wherever American pharmaceutical products are dispensed upon the prescriptions of physicians.

Supplied in liquid, powder, capsule and tablet forms, and in combination with a variety of other agents (see our catalogue).

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to the profession. As for the substances which are not so included, the utility of the work is obvious. Edsall says, for example, that, within a few hours of his writing this paper, he had to answer three questions which could not have been done before, coming from non-medical professional men regarding certainly proprietary articles. Many articles are simply not mentioned in the books, and this means either that they are useless or unscientific or harmful, or that they are exploited by unworthy methods. The Council has been asked why it does not publish a list of all articles rejected, but this it cannot legally do, and really a list of those that will conform to reasonable rules is what is actually required. He notices some criticisms that have been made and answers the objections. Realizing the exigencies of trade, the Council attempts to be as mild as possible in regard to matters that are open to judgment, but it cannot leave the decision of such things entirely to the manufacturer. Two gratifying results of the work are noticed in conclusion: One is the disappearance of the lecturing type of detail man. The other is the building up of healthy skepticism in the profession in place of the former credulity to the statements of interested parties. An interested person cannot usually, even if he would, give fair and judicial information, and the Council looks forward to a time near at hand when it can proceed to put all these matters squarely on a scientific footing and can advance to a point where it can reduce subserviency to the methods of any manufacturer, to commercial expediency, or to trade conditions in any way, down to the lowest point humanly practicable.

TOOTHPICKS AS FOREIGN BODIES.

G. M. Livingston. Manistique, Mich., (*Journal A. M. A.*, November 12), reports a case of severe irritation of the stomach and hemorrhage in the stomach and bowel caused by the swallowing of several toothpicks which the patient had been in the habit of chewing. Relief was obtained by the passage of the foreign bodies *per anum*, and there were no serious sequelæ.

NEPHRITIS FOLLOWING TONSILLITIS.

H. W. Loeb, St. Louis (*Journal A. M. A.*, November 12), says that recent experience has impressed two important facts on his mind; first, acute nephritis is a frequent sequel of tonsillitis; second, this is overlooked in practice by the majority of practitioners. He reports four cases, all physicians or occurring in the families of physicians and presumably therefore carefully observed. In each instance diphtheria and scarlet fever were positively excluded and the nephritis was of the hemorrhagic, non-scarlatina type without pyrexia or edema. In each instance also the tonsillar inflammation was mild in character and the course of the disease unusually slow, and in no case was the nephritis discovered until the tonsillar affection had disappeared. From these cases and the literature, which is extensively quoted, he concludes as follows: "1. Acute nephritis results from acute tonsillitis far more often than is generally believed. 2. The symptoms ordinarily are not manifested until some time after the inception of the disease. 3. The nephritis is of the hemorrhagic type and differs from that of scarlet fever in that pyrexia, edema, and oliguria are not marked symptoms of the disease. In addition, it follows the angina and is not concomitant as in scarlatina and diphtheria. 4. Judging from the course of the cases reported, there must be many in which a mild nephritis occurs incident to a tonsillitis, which goes on to resolution without patient or physician being conscious of its presence. 5. As each case of lacunar tonsillitis may be a potential source of acute nephritis, it is incumbent on practitioners to observe the urine, not only during the height of the disease, but for some time after as well. 6. Spontaneous or idiopathic nephritis is probably often due to a tonsillitis that has not been considered as an etiologic possibility. 7. Chronic affections of the kidney may well owe their origin to unrecognized acute attacks of nephritis of tonsillar origin. 8. Much light may be shed on this subject by a study of the urine in a large number of cases of acute tonsillitis."

TEACHING PARACENTESIS OF DRUM-HEAD.

H. Friedenwald, Baltimore (*Journal A. M. A.*, November 5), describes and illustrates an appliance used by him in teaching students the operation of paracentesis of the drum-head, an operation which every general practitioner should be able to perform. It consists in doubling the brass plates made to hold the pictures of diseased drum-heads in Bacon's schematic ear model, giving one of the plates a little stem to represent the handle of the hammer. The plates are held together by a screw which allows them to be separated, and a piece of thin paraffin paper is placed between them and screwed tight. This gives a good imitation of the drum-head. The device is inserted in the model and the student, supplied with hand mirror, speculum and paracensis knife, practices the operation many times. Friedenwald has found it of great assistance to teacher and student.

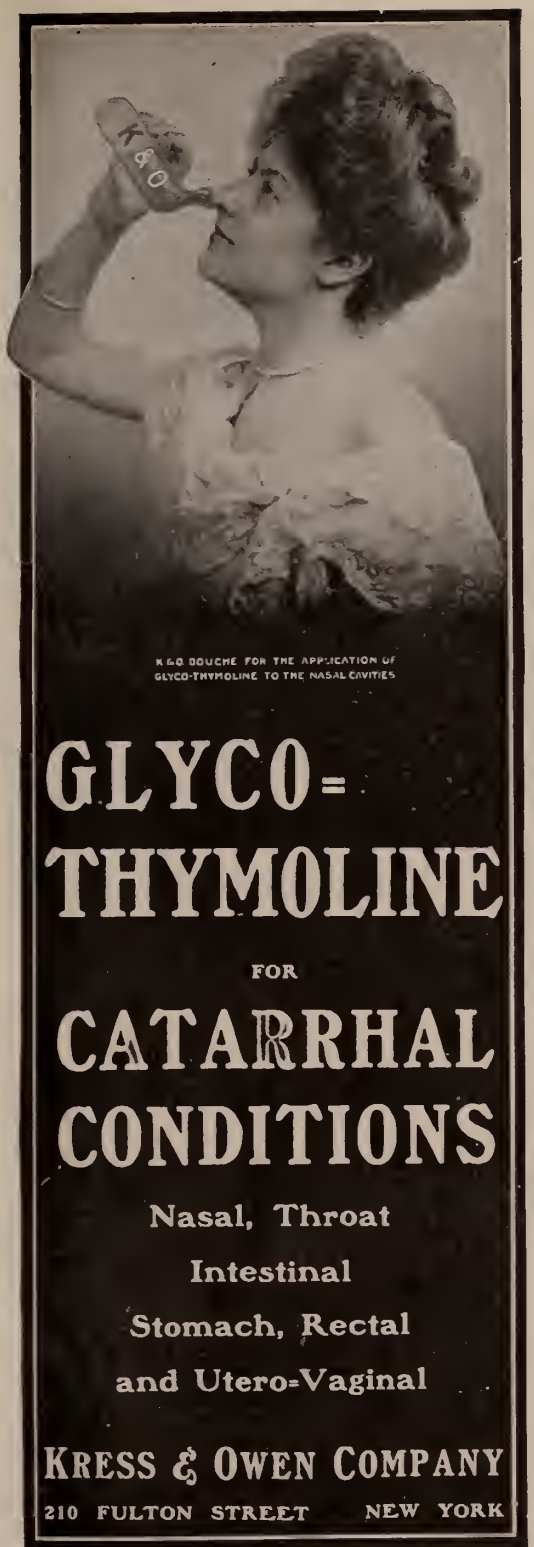
DR. BRANAMAN REMEDY COMPANY.

The details of the government's action in issuing a fraud-order against a mail-order "deafness cure" concern appears in the Pharmacology Department of *The Journal A. M. A.*, November 26. The concern in question is the Dr. Branaman Remedy Company of Kansas City, Mo., which was conducted by G. M. Branaman, M. D., a graduate of the medical department of the University of Louisville, 1891. Branaman obtained victims by advertising to cure deafness and offered to send "two months' medicine free" to those who applied. His method was, on receiving a letter from a prospective patient, to send the usual "symptom blank" and ask that it be filled out and returned to him. When this was done the patient was informed that his case was far too serious to be treated merely by medicines and that what he needed was the "electro-magnetic headcap," which Branaman would furnish, with medicines, for the sum of $8. If the money was not sent the patient received a series of "follow-up" form letters that were made to simulate personal communications, each letter urging the purchase of the "headcap." If the amount was paid the "headcap" was sent, together with some simple remedies. The post-office inspectors entered into correspondence with

Branaman as supposed patients and filled out five symptom blanks, describing therein five cases of total and incurable deafness. Branaman promised to cure each of the hypothetical patients and urged each to send $8 for the "headcap" and medicines. It was proved at the trial that Branaman was publishing a testimonial from a man who was so deaf that he was unable to work as one having "perfect hearing" since he used Branaman's remedies. It was also shown that, while Branaman represented that he gave individual treatment and attention to every patient, as a matter of fact the same "treatment" was sent to practically all persons sending the necessary $8. As a result of the inquiry the delivery of mail and the payment of money-orders was prohibited to both G. M. Branaman and to the Dr. Branaman Remedy Company.

HEMORRHOIDS.

H. Adler, Baltimore (*Journal A. M. A.*, November 12), notices the difficulties of recognition of ulcer of the stomach, especially in atypical cases, and calls attention to the value of the *x*-ray for this purpose. His attention was first called to this by Dr. Hemmeter in 1906, at the American Gastro-enterologic Association, who, however, was not entirely successful with the method. Adler gives a single dose of 1.5 grams of bismuth subcarbonate in half a glass of water and then waits for the stomach to get rid of it, having determined in advance the motility. In cases in which there is no disturbance in motility the picture was taken in from four to six hours after the bismuth, which was given on an empty stomach. This would allow time for all the bismuth to disappear from the stomach and duodenum except that lodged in the crater of an ulcer. The bismuth shadow is denser than that of bone so that the spinal columns and ribs do not interfere, though some training is necessary to interpret the case properly. After the first *x*-ray examination, one ounce of the bismuth subcarbonate is given in a glass of water and a second picture taken immediately. The bismuth rapidly spreads over the entire gastric mucosa, but this can probably be facilitated by having the patient turn from side to side several times. This examination is for the purpose of obtaining a shadow of the entire stomach so as to localize any shadow made on the first plate. Adler speaks of the possible dangers of large doses of subnitrate of bismuth, and sufficient is known of them to make one hesitate in giving large doses. He has had no untoward results in the use of the subcarbonate, however, and in most of his cases no effort has been made to get rid of it after the *x*-ray exposure. Other metallic substances have been recommended, notably the red oxid of iron by Teagle and the magnetic oxid of iron by Lewin. Hemmeter has had some experience with calcium salts. When there is probability of stenosis of the stomach or marked ulceration of the alimentary tract, means should be taken to remove the bismuth after it has served its purpose. Six cases are reported. Of these three were undoubted cases of ulcer clinically and in one the diagnosis was proved by operation. In two cases the diagnosis could have been only presumative without the use of the *x*-ray. Three of the patients were radiographed again after carrying out



the ulcer treatment. In two of the ulcer shadow had disappeared; in one it persisted. His paper is offered as a preliminary report and his observations will be continued. The article is illustrated.

THE HOME OF THE ASSOCIATION.

Continuing the story of the erection of the new quarters of the American Medical Association (*The Journal A. M. A.*, November 12), it is said: The new building is supported entirely by the steel columns of the framework: the brick walls have no part in the support. There are twenty-four of these columns, each resting on a foundation of concrete and steel, and these foundations, or column footings, rest on the piles, nearly 400 of which were used. Sixteen piles were required for each footing. After being driven they were sawed off square, covered with a platform of steel I-beams, frames built up and slush concrete thrown in. These concrete footings are pyramidal in shape, 10 feet square at the base, which rests on the piles, and 4 feet at the top, and are 5½ feet deep. On these the steel columns rest. This brief description gives but little idea of the solid substructure on which the steel columns rest. A concrete wall was also built under the rear end of the building and a curb or retaining wall at the curb line under the sidewalk. These walls and the column footings required 30,000 cubic feet of concrete. About 800 tons of steel columns and heavy beams and girders make up the framework of the building. The floors and roof are made of 12-inch porous hollow tile arches, and the partitions and vaults throughout are of the same material 4 inches thick, plastered on both sides. The outer walls are of 3-inch paving brick laid in red mortar, lined with common brick. The main doorway has a frame of ornamental tile bearing above the legend, "The American Medical Association." The window ledges and cornice and the upper coping are also of terra cotta. Although strictly fireproof, the building is provided on the south side with a platform and stairway fire escape, as required by the city ordinance.

COCCIDIOIDAL MENINGITIS.

A case of coccidioidal meningitis in a child two years of age is reported by H. A. L. Ryfkogel, San Francisco (*Journal A. M. A.*, November 12). There was absence of the characteristic coccidioidal skin lesions and the case had been diagnosed as tuberculous or syphilitic in character. There were numerous skin abscesses, however, which revealed the organism. Secondary hydrocephalus set in and the question arose whether this was due to meningitis caused by the fungus or, as it occurred after the abscesses had been apparently cured, whether it was an epidemic cerebro-spinal meningitis. Lumbar puncture did not settle the question. An injection of Flexner's serum was given, without improvement, and about three weeks later a second one, which was followed in 34 hours by death. Ryfkogel considers the cause of death in this case to be probably the anaphylactic reaction of Richet. Hutinel has published reports of four cases of death after a second injection of antimeningococcus serum, and the hypersusceptibility of tuberculous individuals to a second injection of horse serum is well known. The sensitiveness in this case bears some relation to these and is another evidence of similarity of the fungous granulomata to tuberculosis. There was a tendency of the lesions to heal in this case and the meningeal lesions were found regressive on autopsy, indicating a possible curability of the condition.

THE MUFFLED ROOM FOR THE INSANE.

The "muffled room" is defined by Sanger Brown, Chicago, (*Journal A. M. A.*, November 5), as an apartment constructed in such a way that any noise made by the occupants may not be heard outside, and *vice versa*. It should, of course, be well ventilated. Its principal purpose is to facilitate individualization in the treatment of insane patients, i. e., to relieve the physician in the treatment of a given case from any embarrassment due to the needs or demands of other patients, and conversely to protect the patient for whom it is used from external causes of excitement. It will, therefore, he thinks, do away with the objectionable necessity of frequent sedatives, and also prevent an excited patient from being injured by frequent irritations of external origin. He thinks such rooms are almost indispensable to secure the best treatment of acute insanity. He has had a number of them in use for years, and he finds them eminently satisfactory. He thinks that the needs would be fairly met in an establishment for acute cases if one-quarter of the single rooms were thus fitted. The best method of muffling rooms has not yet been worked out, owing probably to the fact that such construction has not been demanded with sufficient urgency. It is a problem for the practical architect and engineer to solve. In the institution where Brown has had his experience with the method, since it was not fireproof, he simply had several layers of Cabot's sheeting quilt placed in the partitions and floors and ceilings and had double doors and windows put in and then placed a fan in the outlet flue (each room in the house has an independent inlet and outlet flue for ventilation) to provide for forced ventilation, and this latter provision has been entirely satisfactory. He found, however, that while the degree of muffling was considerable, it was not sufficient in certain instances, and he has further thickened the walls in some of the rooms in various ways. That which has proved most satisfactory has been to line the walls and ceilings with tiling such as is used in partitions for fireproof building.

TUBERCULIDES.

In a joint paper (*Journal A. M. A.*, November 12), J. S. Leopold, New York, and I. Rosenstern, Berlin, Germany, call attention to a special point in the diagnosis of tuberculosis in children. It has become evident of late years that this disease is more frequent in infancy than was formerly supposed. The various tuberculin reactions have greatly aided in determining this fact, and a positive tuberculin reaction in infancy generally means an active tuberculous coccus. Before we use the tuberculin reaction, however, some suspicion of tuberculosis has to usually exist, and it is a peculiarity of infancy that most of the premonitory signs are lacking and, when the typical symptom-complex appears, the case is practically hopeless. The various skin lesions are of the greatest value in the diagnosis, namely the so-called actual tuberculous lesions, lupus, scrofuloderma, and tuberculosis varicosa cutis. These are, how-

ever, rare in infancy. More common and therefore of greater value are the so-called tuberculides and one class of these plays an especially important role in infants. The authors have been giving special attention to these for ten months, using the abundant material of the Kinderasyl of Berlin. The purpose of their paper is to show how valuable this lesion, as yet unrecognized by most observers, is in the diagnosis of tuberculosis in children. The tuberculides consist of slightly raised rounded papules varying in size from a pin head to a millet seed. At first they are of a red color but later become brownish and show a scale or crust in the center. When scratched away they leave behind a rounded depression which does not bleed but is dry, as a rule. Their most characteristic points are the absence of any tendency to ulceration, their central depression, their livid brownish color, and their glistening appearance when the skin is stretched. They may appear anywhere on the skin, but preferably on the arms, the lower back, and especially the extensor surface of the lower limbs. According to the authors' experience there are rarely many present in one case, sometimes not more than four or five, or even less. Hamburger has called attention to the fact that they are easily overlooked on account of their minute size. They were found in asylum children in about 40 per cent. of the cases. They will be less frequent in dispensary practice, as they need watching for constantly, since they soon lose their characteristic appearance. In many hundred non-tuberculous infants they have never been seen by the authors. Their tuberculous character is shown by the fact that in 70 per cent. of the cases tubercle bacilli have been found. A number of case histories are given.



THYROID AND ADRENAL ACTIVITY.

In a preliminary report on this part of his investigations made at the physiologic laboratories of the Harvard Medical School, R. G. Hoskins, Columbus, O. (*Journal A. M. A.*, November 12), gives an account of his experiments made to test the theory of the influence of the thyroid on adrenal activity. The studies were purely morphologic in character and based on the supposition that increased or decreased activity of that organ in plastic, rapidly growing animals causes a corresponding hyper or hypoplasia. The guinea-pig was used in practically all the experiments. The results obtained on congenital thyroidism have recently been reported in detail in the *American Journal of Physiology*. In his experiments, 28 guinea-pigs were fed commercial desiccated thyroid in various doses and for various lengths of time, leading in most instances to death or abortion. There were obtained, however, 21 offspring from mothers that had ingested from 0.13 to 2.5 gm. of the drug and the weights of their adrenals at birth were compared with the average from 20 normal animals. There was found a depression in weight roughly corresponding with the dosage. In the litter the mother of which had received the greatest dosage the average weight of the adrenals was 0.014 per cent. of body weight, whereas the normal average was 0.03 per cent., the depression amounting to 53 per cent. No histologic difference between the normal and the experimental glands was observed and the depression noted was interpreted as a reaction in the adrenals of the offspring to epinephrinemia caused by maternal thyroidism. In another series eighteen offspring were obtained from 6 mothers that had been thyroidectomized before conception. There was an average hyperplasia in 20 per cent. of the adrenals. The result is significant because the guinea-pig is largely immune to the effects of thyroidectomy. Similar results were obtained in a couple of puppies of thyroidectomized mothers. Studies were also made of the effects of hyperthyroidectoism and hypothyroidectomism in young guinea-pigs directly, the experiments beginning on the day of birth and continuing 15 days, and the results are given in tabulated form. There was an average hypertrophy of the adrenals found in 25 per cent. of the hyperthyroidized pigs. A preliminary series of 11 thyroidectomies was made on newborn guinea-pigs but no effect was observed at the end of 15 days. In view of the fact that in this animal the operation has in other respects so little effect, such a result was rather to be expected. The authors hope to continue the experiments on more suitable animals. The results, as a whole, rather support the theory that the thyroid normally stimulates the adrenals.

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After pneumonia, as a result of its destructive influence on the body, the tissues are depleted and bodily resistance is at a low point. The patient needs blood and vitality. Tuberculous processes, finding no resistance, will graft themselves on the weakened patient, who drifts from pneumonia into tuberculosis. This is the time when a reconstructive of proven power is needed, a reconstructive that will make blood and put back into the jaded tissues some of their lost vitality. NUTROMUL (Brown's Cotton Seed Oil Emulsion) will do this. It is full of nutritious elements and is vastly superior to cod liver oil as a tissue builder. The physician giving NUTROMUL to his pneumonia convalescents will be gratified at the progress they make. It is the ideal tissue food. A sample may be had by addressing the Nottoc Laboratory, Atlanta, Georgia.

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In tetanus the great power possessed by antitetanic serum must not be denied the patient. As its value lies in its prophylactic power rather than in its curative action, it will not be of particular service once the convulsive seizures have gripped the patient. At this period PASSIFLORA INCARNATA (Daniel's Concentrated Tincture) has been shown to have great remedial value. It calms the patient, relaxes the spasm and tends to neutralize the extreme nerve excitability. A large number of physicians have employed PASSIFLORA INCARNATA (Daniel's Concentrated Tincture) with success, and in view of the reported successes, it should be employed in every case. Give it early and in increasing dosage.

Tooked It Off.—A little girl, aged three, had been left in the nursery by herself, and her brother arrived, to find the door closed. The following conversation took place:

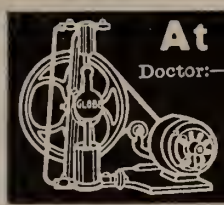
"I want to tum in, Cissie."

"But you tan't tum in, Tom."

"But I wants to."

"Well, I'se in my nightie gown, an' nurse says little boys mustn't see little girls in their nightie gowns."

After an astonished and reflective silence on Tom's side of the door, the miniature Eva announced triumphantly: "You tan tum in now, Tom, I tooked it off!"—*Penny Pictorial.*



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DOSE: ONE TO TWO TEASPOONFULS.

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Barnet of Berlin, recommends the use of powdered silver nitrate as a means of exciting the proliferation of granulations and the regeneration of epidermis over open wounds and ulcers. As an excipient he uses fuller's earth. The latter should be sterilized by heating to 100° or 150° C., which increases also its hydroscopic properties. The mixture should be used in the proportion of 1 part of silver nitrate to 99 parts of the earth. It is dusted on the raw surface, care being taken not to let it extend over the parts already healed over, and renewed every second or third or fourth day according to the amount of secretion and reaction of the tissues. When the wound is well on the way to epidermization it is recommended to interrupt the treatment from time to time and apply a simple aseptic dressing. The author has employed the treatment in a large number of cases, and recommends it especially for burns and for the healing of wounds following furuncles and other infective processes of the skin.—*The Hospital Journal,* London.

HOW GOD HAS IMPROVED.

Sam: "Mamma, did God make you?
Mother: "Yes, dear."
Sam: "And father, too?"
Mother: "Yes."
Sam: "And sister, too?"
Mother: "Certainly."
Sam: "And me, too?"
Mother: "Certainly, foolish."
Sam: "He's improving right along, isn't he?"—*Harper's Weekly.*

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¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

¶ It is the same pleasant, gentle laxative, however, which for many years past physicians have entrusted to domestic use because of its non-irritant and non-debilitating character, its wide range of usefulness and its freedom from every objectionable quality. It is well and generally known that the component parts of Syrup of Figs and Elixir of Senna are as follows:—

Syrup of Californian Figs ..... 75 parts
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¶ Its production satisfied the demand of the profession for an elegant pharmaceutical laxative of agreeable quality and high standard, and it is, therefore, a scientific accomplishment of value, as our method ensures that perfect purity and uniformity of product required by the careful physician. It is a laxative which physicians may sanction for family use because its constituents are known to the profession and the remedy itself proven to be prompt and reliable in its action, acceptable to the taste and never followed by the slightest debilitation.

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℞ Oil rose .....gtt. x.
Glycerin .....ʒj.
Bay rum .....ʒiij.
Oil cajuput .....gtt. xx.

M. Sig.—Apply to hands at night, and when going out in the cold.

STYES.

℞ Acidi borici .....ʒj.
Ext. dest. hamamelidis .....ʒij.
Aquæ dest., q. s. ad .....ʒiv.

Sig.—Apply on a piece of absorbent cotton several times a day.—*The Prescription.*

ULCER OF THE STOMACH—SURGICAL INTERVENTION.—Some men advise surgical treatment with every urgency. They recall hour-glass deformity and the danger of perforation.

Leroy and Minet, in l'Echo médical du nord, 6 March, 1910, report a series of studies showing that simple post-operative drainage, without suture, is effective.

THE PICTURE SHOW OF THE FUTURE.

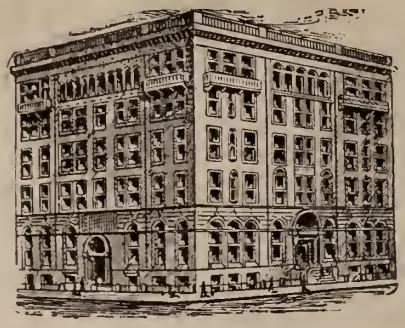
No more we'll seek the picture shows
To drive away dull care,
To see how Casey led the goat
Or watch the county fair;
No more upon the screen we'll see
How Wilbur Wright can fly—
We'd rather watch the ptomaines jump
And see the germs waltz by.

No more we'll seek the far North Pole
With Peary or with Cook,
Or scour the plains with Bronco Bill—
We'll watch the hookworm hook.
We'll no more laugh to see portrayed
The pranks of little Willie—
We'll watch the microbe do its stunts
And cheer the new bacilli.

—By Gertrude McKenzie.

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TREATMENT OF ERYSIPELAS WITH ANTI-DIPHTHERIA SERUM.

Rehak (Abst. in Fortschritte der Med. Nov. 17. 1910, p. 1547) reports the most brilliant results from the above treatment. After treating 13 cases with anti-diphtheria serum (diphtheria antitoxin probably) he concludes that all cases of erysipelas, except where general sepsis has supervened, react within 24 hours after the injection with a fall of temperature, followed quickly by an improvement in all the subjective and objective signs of the disease, and the case goes on to complete recovery without any serious complications. So far as observed, no relapses occur. In one case with general sepsis, no reaction to the serum injection occured. Encouraged by Rehak's report, Barannikov (ibid) has tried the same treatment in 3 cases of severe erysipelas and has obtained results that surpassed anything previously seen in his 24 years of practice.—*Gifford, (Omaha).*

CHANGE OF VOICE.

E. B. Scripture, New York, gives the treatment of the improperly developed or eunuchoid masculine voice. He says that examination of the larynx in such cases shows the vocal cords to be very shiny and white and apparently very tightly stretched. External examination shows that, in speaking or singing, the larynx is pulled up high under the tongue and often forward toward the chin. The condition is evidently due to an overcontraction of both the intrinsic and extrinsic muscles around the larynx, causing overtension of the vocal cords. It is a purely nervous habit. The treatment begins by teaching the person to sing on very low tones. These will at first be harsh and rattling, but will soon become natural. The pitch of the song is gradually raised until the patient sings over the normal range of voice. Another exercise consists in chanting sentences on a single low tone, gradually raised in pitch in successive exercises. A third exercise consists in singing the first word or two of a sentence on a low tone and finishing it by speaking. Exercises in singing and speaking are used with the larynx pressed downward and backward. A cure is generally accomplished in one or two weeks.—*Medical Sentinel.*

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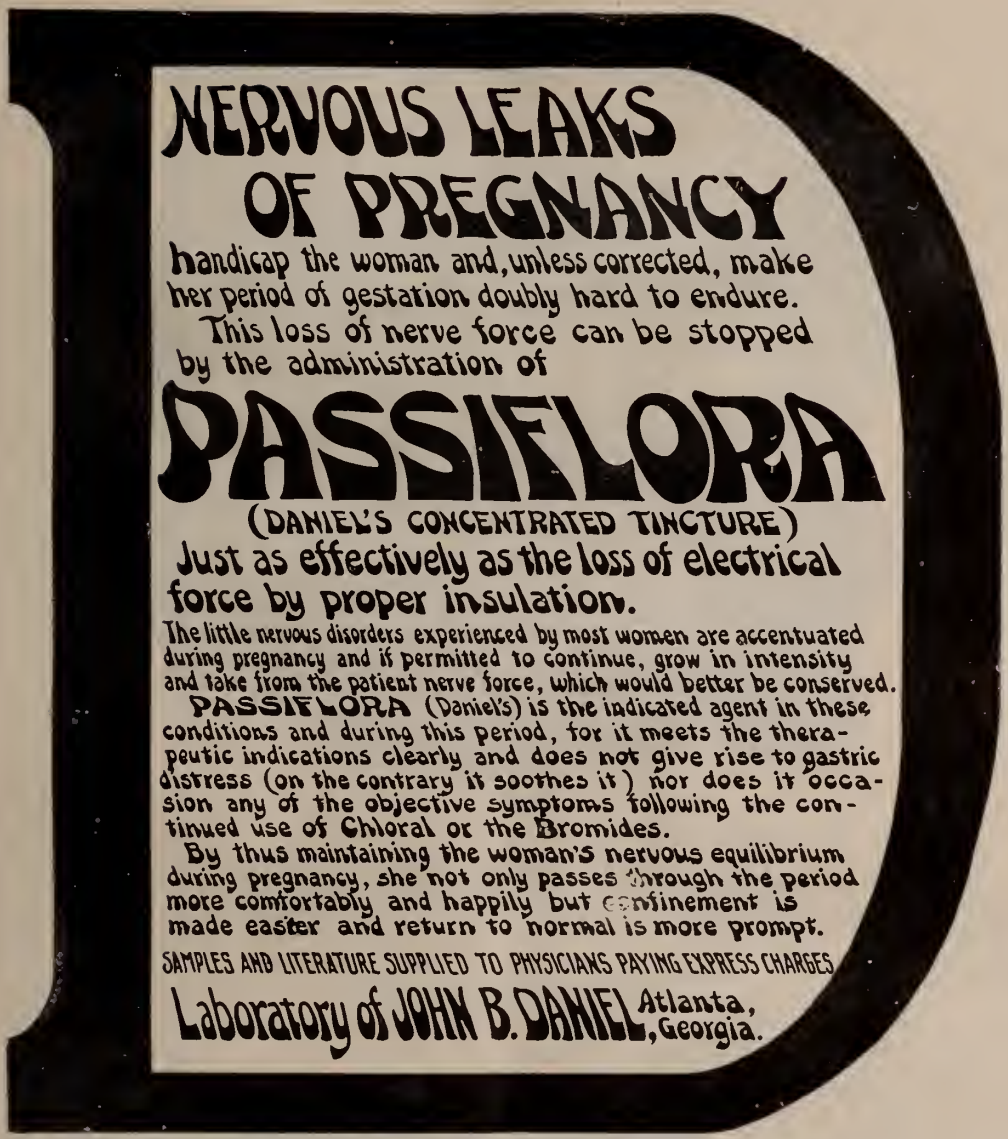
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KISSING THE SHUTTLE.

In English cotton manufacturing districts it seems customary for the weaver to thread the shuttle by applying the mouth to it and then drawing the weft through by a sucking action; this method is known as "kissing the shuttle." As the same shuttle is used by different weavers without any attempt at cleansing, this procedure affords a ready means of conveying pathogenic germs. In one year, three female weavers who all worked on the same looms and shuttles, died of tuberculosis. Dr. John Brown, a Medical Officer of Health, to whom these deaths were reported made inquiries, by which he concluded that the chief factor in the causation of the disease was this insanitary practice of "kissing the shuttle." And he strongly recommended to the authorities that when shuttles are used by more than one person they should be thoroughly cleansed and disinfected after each time of using. And in accordance with such recommendation the Borough Council had manufacturers advised that after use the shuttles should be immersed for about half an hour in a ten per cent. solution of izal, which in this proportion is non-poisonous and does not injure the material of which the shuttle is made.

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N. Y. Med. Jour.

NO. 6

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Vermont Medical Monthly.

VOL. XVII. JUNE 15, 1911. NUMBER 6.

ORIGINAL ARTICLES.

THE PRESENT TREATMENT OF PULMONARY TUBERCULOSIS.*

BY

WALTER C. KLOTZ, M. D.,

Medical Director, Vermont Sanatorium for Tuberculosis.

A study of the history of medicine shows that many of the principles at present employed in the treatment of pulmonary tuberculosis have been known for ages. Even the physicians of ancient Greece and Rome had recognized the importance of climate and the benefit derived from certain modes of diet. They frequently recommended sea voyages or advised their patients to sojourn among the mountains or in the vicinity of pine groves.

Prophylactic measures against the spread of the disease have been in force for over a century. As early as 1790 an edict was given out at Naples making it compulsory to notify the authorities of all deaths from phthisis and to disinfect the premises and belongings of the deceased. Its infectiousness must therefore have been well recognized even at that time.

Individual examples of benefit derived from outdoor life have been recorded from time to time during the last century, but Brehmer in 1858, was the first to establish the modern climatic-dietetic-hygienic regime when he built his sanatorium at Gorbersdorf in Silesia. He was followed by his pupil Dettweiler at Falkenstein. In this country Trudeau, in the face of the greatest obstacles, founded the first public sanatorium for the treatment of tuberculosis, the present Adirondack Cottage Sanitarium.

The discovery of the tubercle bacillus as the cause of the disease and with this discovery a better knowledge of its pathology gave further impetus to anti-tuberculosis work throughout the civilized world. The last ten years especially have seen the greatest development of the fight against this modern plague. Innumerable hospitals and sanatoria for the treatment of tuberculosis have been built by state and municipal authorities, by charitable bodies and philanthropic individuals. National, state and county anti-tuberculosis associations have been organized, anl tuberculosis dispensaries, day camps and farm colonies established. The disease is no longer regarded as incurable, its victims no longer allowed to drift hopelessly to the grave, without a hand held out to save them.

Tuberculosis is curable, this has been definitely shown by the reports of institutions and the record of hundreds of former patients who are well and earning a living, two, five, ten, or even twenty years after their discharge from the sanatorium. It has been shown by the life and work of many individuals, in this very cause, who have themselves been subject to the disease. But sanatorium reports do not and cannot recount the courage and persistency that many of these patients have shown in their hard fight, the many difficulties they have had to overcome, the many discouragements they have had to face, the many sacrifices they have had to make, in order to bring about this successful issue.

Tuberculosis is curable—and the essential principles of its treatment, rest, suitable diet, and plenty of fresh air, seem very simple but their practical application is anything but easy, and success will not follow except through the most earnest efforts on the part of physician and patient.

In the first place, all cases are not curable. Treatment must be instituted early. There is no hard and fast clinical boundary, we cannot foretell always what case is or is not curable, but we cannot begin too soon. The importance of an early diagnosis has been pointed out repeatedly and cannot be emphasized enough. If a diagnosis of pulmonary tuberculosis has been made even tentatively, treatment should be instituted at once, and that most energetically. This is the opportunity when any sacrifice of career, fortune, ambition or pleasure will be most liable to bring about some return, and this opportunity may never occur again.

There are, of course, cases which run an acute course from the beginning and terminate fatally in spite of all that can be done. But they repre-

*Read before the Burlington and Chittenden County Medical Societies, at Burlington, May 25, 1911.

sent only a small percentage of the cases that fail to get well. In the majority of instances the reason for failure was the fact that treatment was begun too late.

It is by no means always the fault of the physician that treatment was not begun sooner. Patients do not consult a physician early enough, or if they do, frequently refuse to be convinced that their illness is really so serious, consequently they fail to follow what seems to them too heroic and radical a measure, for an illness that does not produce more outward manifestations or disability. In many instances, perhaps, the support of a family compels them to keep on to the end, though perhaps if they could only have seen far enough ahead they might have realized how much better off even those dependent upon them would be in the end, had they taken such advice as was offered at the beginning.

Next to making an early diagnosis, the most important factor in bringing about a cure of the disease is carrying out the treatment for sufficient length of time. It is impossible to obtain permanent results in a few months or sometimes even in a few years.

The first immediate effects of the treatment are so encouraging that the patient is only too apt to feel that the danger is over. Because he has gained fifteen or twenty pounds, because his cough and expectoration have nearly ceased, he thinks that he has been cured. He looks better and feels better than he ever did before in his life. For that reason this is probably the most critical period in the course of treatment. He must therefore be convinced that he has just begun to be better, that unless he keeps up the careful regime, he will most certainly have a recurrence and lose all he has gained. When he does begin to relax a little from the strict rules of living, the change must be gradual. There can be no fixed date set for a marked transition. If he follows some occupation it must at first be under a better environment than he was accustomed to before he was taken sick; the hours must be shorter if possible and he must still observe all hygienic precautions and take the rest and outdoor treatment during the hours off duty. He must sleep out of doors or with windows open to fullest possible extent. Not until the patient has been following some occupation and living a normal life for two years, without a relapse or recurrence can we speak of him as a "real cure" or as "well," the terms employed in sanatorium statistics.

Having considered then, the principal sources of failure of the present mode of treatment of pulmonary tuberculosis and taking up its actual application, it is essential from the beginning to bear in mind the importance of careful individualization and attention to detail. As we have stated above, a successful outcome depends much upon the earnest efforts of both the physician and patient. It must be brought out from the beginning that it is going to be a hard fight and a long fight and that unless the patient cooperates with the physician to the fullest extent, he is going to lose. His whole life must be planned as to amount of sleep, exercise, diet, baths and recreation. Every minute of the day must be regulated, every act be under supervision, at least for sufficient length of time to give a thorough training. The length of time depends again upon the individual temperament, disposition and education. It has been remarked by someone that a certain degree of intelligence and mental development on the part of the patient are essential for the successful treatment of pulmonary tuberculosis. If he is not capable of seeing that the restrictions and regulations are made for his own good, if he cannot reason out their significance, if, in other words, he does not fully cooperate with his doctor in carrying out such a plan of living, the chances are strongly against him. It is frequently possible when patients are admitted, to determine from their mental attitude what the probable course of the disease will be. If they are sanguine, patient and hopeful, if moreover, they have such resources as will divert their minds from the disease and its symptoms, they will often do better and require a shorter period of training than others who, although more favorable clinically, are depressed, impatient of restraint and resentful at any interference with their own personal inclination, who will smoke on the sly or indulge in drink, sit up late, or keep indoors when not watched, who think they are getting the best of the doctor if they can break rules without being caught. Such patients need to be kept under supervision a longer time. Left to themselves they will almost invariably drift back to their former habits and environment and subject their organisms to the same influences that originally helped to bring on the disease.

On the other hand, many patients take too pessimistic a view of the disease and frequently lose hope of recovery. They become introspective and hypochondriacal. Such patients require constant reassurance and encouragement, particularly those cases where perhaps months of faithful conscientious treatment are followed by recurrence.

In other words the successful treatment of tuberculosis requires a broad knowledge of human nature and an infinite sense of tact. Patients must be held with a firm hand, at the same time they must be gently dealt with. The tuberculous subject like those suffering from other lingering diseases is often more sensitive than normal. He feels even unintentional slights or apparent neglect more keenly. At the same time he is all the more appreciative and grateful for little kindnesses and favors.

Before considering in detail the indications and application of the physical treatment, it might be well to discuss the different modes of carrying out such an anti-tuberculous regime, for in each instance the principles are the same, whether the patient is going to be treated at a sanatorium, at home, at a day camp or dispensary with the aid of a district nurse.

From what has been said of the necessity and importance of careful supervision it must be obvious that this can be carried out best in a closed institution where the patient is under continuous observation, in other words, at a tuberculosis sanatorium if it be an early or favorable case. It is only here that we have the necessary conditions and facilities for carrying out such a plan of treatment—the constant supervision of a trained medical staff and what is of almost equal importance, a community of interest with other patients, the mutual support and sympathy of those who have the same object in life. Here there is no need for concealing the true nature of the disease and no need to invent excuses for being there. If they observe the usual strict precautions as to cough and expectoration they will not be made to feel that they are undesirable members of society. No one who has not seen or experienced such attempts at concealment, at some so-called health resorts, can realize what value such freedom from hypocrisy and deception must be, as an aid to treatment.

It is only in a sanatorium that a strict regulation of a patient's life can be maintained. Even the most intelligent and willing patients find that in their homes their "best friends" may become their "worst enemies" by offering inducements and invitations to participate in amusements or occupations that may result in considerable damage. What may seem a harmless diversion, may undo the work of months of patient treatment, or even render hopeless, a case that had previously given every promise of complete recovery.

The general practitioner can hardly find time to devote enough attention to one or even a small number of patients out of his entire clientele to institute such a regulation of their life as will bring about the best results, unless located in such a small town that he can not help seeing something of the patients in simply passing to and fro in his daily professional visits.

On the other hand there are many patients who cannot avail themselves of sanatorium treatment. They may be prevented by lack of means or their cases be too far advanced, though not necessarily hopeless. In some delicate individuals it may be true also, that a separation from home and family may be undesirable although on the whole many petty annoyances that may exert a very unfavorable influence can only be avoided by being away from home.

Among the very poor in larger cities when any change of location is absolutely out of the question, much good has been accomplished by means of the day camp and dispensary, supplemented by district nursing. The latter is a most essential part of such a plan of treatment for whether rich or poor, incipient or advanced, convalescent or relapsing, mentally impaired or intellectually brilliant, the tuberculous patient is like a child and needs constant watching and caring for. It is the work of the district nurse to follow up the patient in his home, to see that he is properly carrying out the directions given him, to instruct his family and to improve the sanitary conditions of his home. Needless to say, the success of the day camp or dispensary must depend upon the thoroughness with which this part of the work is carried out.

Neither the day camp nor dispensary are suitable, however, for advanced, febrile and weakened patients. Neither can these be suitably treated at sanatoria for early or curable cases. Yet such patients need to be cared for. They are a source of danger to their families and associates and they ought to be made comfortable during their last days. There is the greatest

need at the present time for hospitals or homes where such advanced and hopeless cases can be treated. As the consideration of climate may determine our choice of procedure in a given case, it may be well to take up this question before discussing the further details of treatment. In this matter we must be guided by existing conditions. During recent years less importance has been attached to the effect of any especial climate as an actual curative agent, the main consideration being that the air be pure, free from dust and irritating gases and that the local soil conditions are such as to provide good drainage. It is this latter feature more than any effect that balsamic odors may have on the diseased lesions, which has led to the belief that the vicinity of pine woods is directly beneficial. This theory is explained by the fact that pines are more apt to grow in elevated sandy regions where the soil is dry. The relative local altitude is of more importance than absolute altitude above sea level. A patient should therefore, always make a change if the location is damp, low, or known to be unhealthy; if the water supply is not pure and the drainage conditions bad.*

If, moreover, the patient's home is in a crowded city he should, if possible, be moved to the outskirts or to the country. Even a slight change frequently exerts a great beneficial influence in case of those whose life has been spent in close tenement quarters.

For those who have lived in better circumstances a more decided change seems desirable and in choosing a location, it is advisable, other things being equal, to go to a somewhat higher altitude, to a colder climate and further inland, particularly if residence has been located on or near the coast where there are frequent fogs and excessive humidity. There is no question that such a change frequently increases the appetite and improves nutrition. It may also exert a beneficial influence upon associated secondary catarrhal affections, though it has never been shown that atmospheric or meteoric conditions have had any specific action on the disease itself. The greater the difference in altitude and the greater the change in climatic conditions, the more necessary does it become to make such a change a permanent one or at least for many years.

Good results have been obtained in the north Atlantic States, on the New England coast and even in the larger cities, and if it is possible to arrest the disease under such relatively unfavorable conditions, the less chance will there be of recurrence in returning to the former occupation and environment.

Warm dry climates which were formerly so highly recommended have been found too enervating as a rule. In some cases, however, the cold vigorous winter of the Adirondacks, for example, may be too exhausting. If the body has been worn out by the struggle for existence, it may lack sufficient resiliency to react to the stimulus of a temperature 20-40 degrees below zero.

Sometimes a temporary change to a lower altitude and to the sea coast during seasons when there is little fog or rain may exert a beneficial influence; the temperature may be lowered and a flagging appetite improved and sleep promoted. Such brief sojourns at the sea shore will then be followed very often by more marked improvement on returning to the mountain resort. Sometimes merely a change of scene and a break in the monotony of the routine seems to be the real factor in bringing about a condition of betterment. Frequent changes are, however, not to be recommended as they interfere too much with carrying out a careful regime. On the other hand, it is unwise to continue in the same location if the disease is progressing or no improvement takes place. It is frequently difficult therefore, to arrive at a decision in all cases. We must be guided by the course of the disease and also a careful consideration of the patient's pecuniary circumstances. There will be nothing gained by sending him off on a long journey if no funds are going to be available to provide a proper living when he arrives at his destination and his physical condition is such that he be unable to follow any remunerative occupations. Nor is it wise to send on long journeys patients who are running considerable temperature or are much weakened by the disease.

Rest is probably the most important element of the dietetic hygienic treatment at the beginning. If the temperature elevations are only slight and the pulse not unduly accelerated, it is not necessary to put the patient to bed and he can come to the table for meals. The slight

*The reports of the Massachusetts and Ohio State Boards of Health have shown that the decrease of mortality from tuberculosis corresponds to the decrease from typhoid and other intestinal diseases which has followed the installation of water supply and drainage systems.

amount of muscular exertion may, in fact, be directly beneficial in promoting the appetite and aiding digestion.

The remaining portions of the day should be spent in a reclining chair or couch placed out of doors on a porch protected from storms and the direct rays of the sun.

Plenty of sleep should be insisted upon, early hours must be kept. If possible, facilities for sleeping out of doors should be provided. If the outdoor life does not promote drowsiness and natural sleep, insomnia must be combated with appropriate means according to indications, depending upon the cause if any be discovered.

All business matters should be laid aside and business correspondence forbidden. Light reading and the writing of occasional short letters may be permitted. Otherwise there should be absolute mental and physical rest. Conversation on any topics that may cause annoyance, anxiety, depression or excitement should be avoided. The patient should be urged not to worry.

The length of time that such a period of rest must be maintained depends upon a number of conditions and must be decided for each case. The first intimation as to the nature of the disease is frequently a severe shock. In addition to the anxieties caused by the disease itself this knowledge may mean serious loss in business, the sacrifice of a career, the throwing up of cherished ambitions, the annihilation of years of work. It may be difficult to become reconciled to fate and to face the future with patience and courage. If, as is so frequently the case, such a breakdown comes at the end of a period of overwork, as a result of physical and mental strain, the reaction may be all the more severe and a longer time be required to recuperate the physical resources.

If at the beginning of the treatment or at any time during its course, the daily maximum temperature reaches 100° F. and remains at this point for an hour or two, the patient should be kept in bed with absolute rest and little or no reading or conversation and no letter writing. Such a period of rest in bed should be continued until the temperature is again normal. In some cases, however, rest in bed may have to be continued for several or even many months. In some cases, therefore, if after persistent rest in bed for some time, the temperature still continues to rise, the patient may be permitted to use a recliner or couch for a few hours daily, unless some complication or extension can be found to account for the continuous fever. Care should be taken to correct any digestive disturbances, as intestinal toxemia may be the cause of the slight elevation. Sometimes some mental worry or emotional strain may be at the bottom of the trouble and uncommunicative patients may be profitably questioned in this regard and means found to remove some difficulty.

The diet should be simple and nutritious, but forced feeding is never to be employed. The caloric value should be about 20% in excess of that, for the same individual in health, with an increased percentage of proteid and fats. Meat, eggs and milk will form the principal components with enough vegetables and fruits and breadstuffs to maintain the dietetic balance and to counteract the constipating effect of the proteid excess. The diet should be so regulated as to provide an average gain of one to one and a half pounds a week during the initial period. It is better to maintain this average over a longer period than to have an excessive gain at first at the expense of the digestive organs.

The object of the dietetic treatment is to improve the general nutrition and place the body in the best condition to resist the tuberculous toxines and it is obvious that this object will not be attained if by overfeeding we produce a condition of intestinal fermentation and intestinal toxemia. A patient who suffers from sick headache, whose tongue is coated, whose bowels are constipated, is not in the best condition for the formation of antibodies. A gain in body weight is in the lay mind the principal criterion of improvement and there is frequently a tendency on the part of patients to stuffing which must be warned against.

On the other hand, there are many patients who must be persuaded to eat more, they have no inclination for food though their digestive powers are much greater than their appetites would indicate. Similarly it is not necessary to withhold solid food even with moderate elevations of temperatures in cases of pulmonary tuberculosis and the diet should be more generous than it would be in other diseases under similar clinical conditions.

When there is more marked elevation of temperature with complete loss of appetite, an actual disinclination for food and impaired digestive power, the diet should be lighter, and it may tax all our ingenuity to invent and devise such selections as will tempt the fickle appetite. Much

tact and persistency may be required to persuade such patients to take enough nourishment, to meet the severe wasting effect of the severe tuberculous toxemia. With intestinal complications such as simple diarrhea and intestinal tuberculosis, the problem becomes even more difficult and in many cases practically hopeless. In far advanced cases toward the terminal stages, the appetite is frequently increased and even capricious. In such cases there is no harm in giving way to the patient's wishes and whims if they may make him more contented and add any comfort to his last days.

Before passing from the subject of diet it may be well to warn against the excessive ingestion of raw eggs. There is a popular belief that these possess some specific curative effect. As a result patients frequently eat as many as a dozen a day. They are, of course, a valuable article of food and in case of patients who are not making satisfactory gain or maintaining their normal weight, one to three eggs are a useful addition to the regular diet. They should preferably be given plain after the regular meals. Taken between or before meals they are liable to spoil the appetite.

From the very inception of the modern treatment of tuberculosis, *fresh air and an outdoor life* have been recognized as important curative factors. The increased amount of oxygen promotes all the body functions. The appetite is stimulated, assimilation and nutrition are promoted, the circulation is improved and elimination of waste products favored. It was at first believed that this could be obtained only, or at least more easily, in warm sunny climates. But it has since been found that low temperatures and even stormy weather are no contraindications, in fact, patients who are leading an outdoor life and sleeping out of doors are much less liable to taking cold. In the beginning the outdoor cure must, as we stated above, be combined with complete rest and for this reason protected porches should be provided whenever possible. These porches should face the southeast or southwest. The north side and either the northeast or northwest be permanently closed and one of the other sides be provided with a movable sash or curtain; but the fourth side should be permanently open. If intended for sleeping out the porch should be wide enough to keep storm from driving in.

If no arrangements can be made for sleeping out on a porch, a room should be set aside for sleeping purposes and the sashes taken out entirely unless the windows are provided with hinged casements opening like doors. In the absence of such arrangements there should be two windows at least, preferably placed in different walls to provide cross ventilation. If they cannot be taken out, sashes should be opened from both top and bottom at night. In winter weather patients must have ample but not too heavy clothing for sitting out in the day time and have ample bed clothing for sleeping out at night. With a little ingenuity even the poorest patients can be provided with some sheltered corner for taking the cure and be made comfortable. During cold weather when the hands must be kept covered, it is more difficult to pass the time, otherwise as soon as the first period of complete rest and relaxation is over, light occupations should be allowed, but patients must be cautioned against any sudden or violent exertion, heavy lifting or straining, dancing, jumping or loud shouting and standing for any length of time. Any exercise that involves exertion of the arms or shoulders, that increases the frequency of respiration or the pulse, must be guarded against, so as not to interfere with the local reparative processes. In this connection forced coughing should be guarded against and the patient urged to control the cough as much as possible. Forced breathing and breathing exercises must be used cautiously in active cases.

If after a greater or less period of rest the temperature remains normal and the pulse taken during and after a short period of quiet is not accelerated, exercise may be given. This should consist at first only in walking slowly, on a level. The amount is to be increased gradually from time to time provided there is no elevation of temperature, the pulse remains within normal limits, and the weight either increases or is maintained at normal. With occurrence of temperature, or any other symptoms of reaction, it must be discontinued at once.

The object of the exercise is threefold. It offers a means of recreation, relieves the monotony of routine life and stimulates the appetite and digestion. In the second place it helps convert the increased amount of adipose tissue into muscle, increasing the physical strength and improving the nerve tone. Finally, exercise produces to a certain extent, an autoinoculation with tuberculin, derived from the focus of the disease. We know that undue exertion is frequently fol-

lowed by the symptoms of reaction, such as are produced by a diagnostic subcutaneous injection of tuberculin. By gradually increasing the amount of exercise, we throw into the circulation increasing quantities of tuberculin until a certain degree of active immunity against the *tuberculous toxines* is brought about, similar to the effect we purpose to produce in the artificial tuberculin therapy to be discussed below. Such a course of graduated exercise tends to harden the patient and renders him less liable to recurrence when he again resumes some practical occupation.

So far no specific agent against tuberculosis and the tubercle bacillus has been discovered. Numerous drugs have been exploited as cures only to yield fresh disappointment. The investigations in the field of immunity and serum therapy soon led to the hope that an antitoxine might be discovered which could be employed artificially to combat the disease. But so far no antitoxic substance has ever been isolated from the blood of tuberculous subjects and there seems no positive evidence as to the exact nature of the antibacterial process. Active artificial immunity has been produced in animals by inoculation with living tubercle bacilli but no one has felt justified in employing this method in human subjects.

The only specific treatment that has attained any clinical significance is the method of tuberculin inoculation or immunization against the tuberculous toxines by the successive injection of gradually increasing doses of tuberculin.

Owing to the indiscriminate and irrational manner in which tuberculin was first employed in many instances, following Koch's original publication in 1890, and the unfortunate results produced in some cases, there arose a strong reaction against its use which persisted for many years, except in the minds of a few intelligent and courageous investigators like Trudeau, Goetsch, Klebs, Petruschly and von Ruck, who convinced of its value in certain cases of pulmonary tuberculosis, if employed with precaution, continued to use it therapeutically in spite of the contrary consensus of opinion among the medical profession. Thanks to their efforts it has been reestablished and its use become more general in many tuberculosis sanatoria. The reports of such institutions offer the only basis we have for any deductions as to its value. Even such statistics must be considered carefully and certain sources or error excluded before we can admit these figures conclusively. But if we accept as the result of any treatment, not the condition of the patient at the time of discharge, but the condition at least two years after leaving the sanatorium, and if we define as "well" or "cured" only such patients as have remained free from all recurrences since their discharge and are able to earn a living at the time of making their yearly report; and if, moreover, we compare only groups of patients who were in the same class at the time of admission, the results show a slightly higher percentage of cures among the patients who took tuberculin than among those who did not.

Similarly if we take the number of patients that are dead two or more years after discharge, we find that taken class for class, according to conditions at time of admission, the results are in favor of those who have taken tuberculin. As opposed to the tuberculin treatment, it may be admitted that possibly more favorable cases have been given the treatment, that patients taking tuberculin remained at the sanatorium longer and that patients who took tuberculin were more careful of themselves, just because they were taking tuberculin. It must remain as proven, however, that if given under proper precautions and in small enough initial doses with gradual increase and reactions are avoided, no harm will result and the patient may be benefited.

It cannot, however, positively prevent recurrence, as tuberculin immunity does not confer immunity against the tubercle bacillus. It cannot prevent reinfection either from without or from existing foci within the body. It does confer immunity against the tuberculous toxines and can thus prevent dangerous toxemia. Recurrence may occur in spite of tuberculin immunity, but tuberculin immunity may prevent the occurrence of dangerous symptoms when recurrence does occur.

In selecting cases for tuberculin treatment it is best not to employ it in acute cases and not until after the general treatment has been continued for some months, unless the time is limited. It should not be employed in cases where the general condition is still much impaired or in cases running a temperature over 100 unless the same has persisted for some time, but then only if there is no sign of recent extension, softening or excavation. In general it has not been recommended in old cavity cases,

though more recently it has been used even under such conditions with apparently favorable results.

Tuberculin should not be given shortly after hemoptysis or in cases with markedly accelerated pulse. In far advanced and hopeless cases it cannot of course do any good and for that reason should not be employed.

It finds its best employment in such cases where after general treatment covering several months, there has been distinct improvement of the general condition, where the normal weight is being maintained, where there is little or no temperature and moderate cough and expectoration; but where no further improvement or change in physical signs has been noted for some time.

In accepting or recommending the use of tuberculin in the treatment of tuberculosis it must be constantly borne in mind, that it is a powerful and dangerous remedy. It must be used with the greatest caution and judgment and is not to be employed by the inexperienced. If all precautions are not constantly observed, it may do considerable harm.

The choice of the preparation of tuberculin in a given case may be difficult. Of the preparations that are in general use B. F. or bouillon filtrate, the unheated diluted culture medium is the safest. B. F. and T. R. are both derived from the bodies of the bacilli and must be given more carefully with slower and more gradual increase of dosage. O. T. or old tuberculin is similar but more powerful in its action than B. F. A combination of B. F. and B. E. has been employed considerably. Whatever preparation is employed the initial dose should be small, much smaller than was formerly recommended, .0000001 gm. or even less of the B. F. and even smaller doses in febrile cases, .00000001 gm. of B. E. (solid substance). The O. T. should be given in same doses as the B. F.

An interval of at least three days should be allowed between injections. The patient should remain more quiet than usual for the first twenty-four hours after the injection and throughout the course of treatment keep a careful record of his pulse, temperature, weight and local as well as general symptoms. Any deviation from the normal should be carefully noted and considered as a possible manifestation of reaction and in the event of this occurrence, the next injection should be omitted entirely, the same dose repeated, or it may be best to go back two or more doses.

The symptoms of beginning reaction to be looked for are slight headache, drowsiness or lassitude with slight rise of temperature. More severe symptoms of reaction should not be allowed to occur.

Sometimes local skin reactions may be noted at the site of injection. These are more common with B. E. and with higher concentrations. They should be regarded as forerunners of an impending general reaction and their occurrence be an indication for extreme caution in proceeding to the next dose. Organ reactions at the site of the lesion are not apt to occur if proper dosage is maintained. Slightly increased expectoration is not necessarily a sign of impending reaction. But the occurrence of streaked sputum, pleurisy, of oppression in the chest and dyspnea indicate the interruption of the treatment. Some preparations are more liable to cause rise of temperature than others, notably B. E. and reactions may occur without rise of temperature.

It cannot be repeated too often or emphasized sufficiently that severe febrile reaction and increased local inflammation are not only not beneficial or desirable, but are decidedly dangerous and should be avoided.

For convenience in administration each dilution of tuberculin is made ten times the strength of the preceding one. The syringe should have a capacity of 1 c. c. and be graduated to hundredths of c. c. Ten hundredths of one dilution will then be equal in strength to 100 hundredths or 1 c. c. of the next lower dilution. Each dilution can be divided into as many doses as may be thought desirable or as may be determined by the course of disease. In increasing the dose the best plan is to follow a scale in which each succeeding dose is in the same proportion, following a logarithmic curve. This scale was devised by Lawrason Brown and Pope and has been in use for some time at the Adirondack Cottage Sanatorium. According to this scale which is tabulated below, each dilution, can be divided into from 2 to 12 doses. In cases of greater susceptibility and in febrile cases, it is always safer to increase more slowly, for the point to remember always, is that there is no absolute dosage for tuberculin. Each individual differs in susceptibility. For that reason there can be no fixed final dose nor can different individuals expect to

DOSE (LOGARITHMIC SCALE).

2	3	4	5	6	7	8	9	10	11	12
1	1	1	1	1	1	1	1	1	1	1
3.2	2.2	1.8	1.6	1.5	1.4	1.3	1.3	1.3	1.2	1.2
10										
	4.7	3.2	2.5	2.2	2.0	1.8	1.7	1.6	1.5	1.5
	10									
		5.6	4.0	3.2	2.7	2.4	2.2	2.0	1.8	1.8
		10								
			6.3	4.7	3.7	3.2	2.8	2.5	2.3	2.2
			10							
				6.8	5.2	4.2	3.6	3.2	2.9	2.6
				10						
					7.2	5.6	4.7	4.0	3.5	3.2
					10					
						7.5	6.0	5.0	4.3	3.8
						10				
							7.7	6.3	5.3	4.7
							10			
								8.0	6.6	5.6
								10		
									8.0	6.8
									10	
										8.3
										10

complete the course of treatment in the same length of time. Besides the danger of reaction, increasing the dose too rapidly may produce hypersusceptibility and render it necessary to suspend tuberculin treatment for many months.

One c. c. of B. F. and O. F. and .005 c. c. of B. F. (solid substance) have been given as final doses. More recently the value of smaller doses has been emphasized and the safest rule for the final dose is to give as high a dose as can be tolerated without producing a reaction. This final dose should be repeated several times at the completion of the course.

On the basis of the initial dose, the interval and final dose, it can readily be estimated that even without any reaction or any intercurrent conditions that would indicate delay, a course of tuberculin treatment will require about six months. But under no circumstances should the increase in dosage be hurried in order to complete the course within any specified time.

Just as there is no absolute dosage of tuberculin so also there is no absolute standardization of preparations. If, therefore, at any time in the course of the tuberculin treatment, another stock solution is used for making the dilutions, it is better to go back three or more doses to allow for any possible difference in strenth.

The difference in strength of different stock preparations must be borne in mind if dilutions are obtained already prepared, as they may have been made from different stock tuberculins. It is better, therefore, to make dilutions one self as needed, the necessary pipettes and directions being readily obtainable from some of the laboratories that furnish the tuberculins. The stock preparations will retain their strength indefinitely if kept in a refrigerator. The greatest precautions should be observed in making dilutions to avoid contamination and to observe the strictest accuracy, as any error in calculation may lead to unpleasant consequences. The usual precautions as to sterilizing needles and preparing the site of injection should, of course, be observed in order to avoid infection and the formation of abscesses. The best site for the injection on account of the lack of sensitiveness is in the muscular portion of the back between the shoulders. Local skin reactions are more commonly encountered however, in more sensitive localities, and it may be an advantage therefore, to use such sites for injections, that we may note their occurrence and thus be placed more on our guard in preventing reactions.

There remains to be considered the treatment of local conditions as may help alleviate the symptoms and indirectly influence the disease.

The most troublesome and annoying is the cough. Much can be done here by way of training and education—to control the cough by will power. The use of many expectorants and sedatives is objectionable because they are very liable to impair the appetite and upset the digestion. Creosote and its derivatives are valuable for the secondary catarrhal conditions and associated bronchitis and have enjoyed the reputation of specifics; so much so that their odor is almost invariably associated with tuberculosis. They are valuable expectorants and respiratory antiseptics but cannot reach or kill the bacilli in the pulmonary tissue. Their use for any length of time usually upsets the digestion. Of the sedatives codeine and heroin are the most valuable. If the cough is aggravated in the morning on awakening by the presence of thick tenacious mucus it may be relieved by drinking a glass of hot lemonade or hot water with orange juice with or without the addition of a little sodium bicarbonate. A little lemon juice may also allay the irritation and tickling of the throat in many cases. Catarrhal conditions of the upper air passages may be treated by sprays and applications and the use of an antiseptic mouth wash as a routine is to be recommended. The treatment of laryngeal tuberculosis is too broad a field

to be considered in detail here. Both local treatment and tuberculin inoculations combined with general hygienic treatment promise, however, to bring about better results than were formerly obtained, even in this dreaded complication.

The proper nutrition is such an important factor in the treatment of the disease that the digestive tract requires special care. The teeth should be kept in good condition. Constipation which is very commonly present in tuberculosis must be treated according to the cause and special conditions present in each case. Gastric disturbances are very frequent as a result of overfeeding and a life of inactivity. They may be very difficult to overcome and tax all our resources. Some cases require rest in bed and restricted diet for varying periods of time.

Diarrhea is a very serious complication. It may be the result of a simple catarrhal enterocolitis due to errors in diet or to the tuberculous toxemia or be the symptom of an actual intestinal tuberculosis. It should be treated most energetically from the outset. The patient should be put to bed and the diet selected according to the usual indications, except that as we are dealing with a wasting disease to begin with, we must feed as often and in such quantities as to provide the greatest possible nourishment that the impaired digestive tract will permit.

The skin should be kept in best possible condition. Cold sponges and showers improve the general tone and stimulate the circulation. A warm bath twice a week followed by cold sponge are indicated for cleanliness. In case of febrile patients an alcohol rub produces a quieting effect and promotes sleep.

Hemoptysis is best treated by rest in a semi-reclining attitude, cracked ice, ice bag to chest, sedatives to check the cough and the use of morphine or atropine or combination of both.

More recently the nitrites, amyl-nitrite, glonoin and sodium nitrite have been used with good results. They act by lowering the blood pressure. The amyl-nitrite and the glonoin are rapid in their action. The effect of the sodium nitrite is more lasting.

Calcium lactate and calcium chloride have been used very generally. They act by increasing the coagulability of the blood, but it is difficult to prove how much practical efficacy they really possess. As in most cases the greatest danger consists in aspiration of blood, and infection of new area of lung tissue, the principal indication is to quiet and calm the patient as quickly as possible.

Pleurisy is frequently a distressing condition but can usually be relieved by a counterirritation or strapping and the internal administration of salol or aspirin.

One of the most difficult conditions to treat is the persistent elevation of temperature. Rest in bed seems to be the most efficacious remedy and may have to be continued for many months. For extreme pyrexia cold sponges and tepid bath are of service. The coal tar antiperiodics must be used with some caution. They reduce the temperature temporarily, but may make the patient more comfortable and promote sleep.

For night sweats aromatic sulphuric acid, hydrochloric acid and particularly camphoric acid afford some relief.

Anemia is a common condition in tuberculosis and iron in some form is frequently indicated one of the best preparations being Blaud's Mass Combined with extract of nux vomica. Strychnine and arsenic may also be of service.

The use of alcohol has been found harmful, just as it is frequently a predisposing cause of the disease. Tobacco in excess is certainly injurious, particularly if there are secondary catarrhal conditions present. If there is an irritating dry cough or laryngitis it must be absolutely prohibited. In many patients who have been constant smokers, smoking in moderation and under restriction may be a great comfort and an aid to digestion. A contented disposition, congenial surroundings and a pleasant outlook, together with cheerful companionship, are important and valuable adjuvants to the physical means of treatment and the question of entertainment and amusement must not be lost sight of in caring for our tuberculous patients.

In summing up the present methods of treating pulmonary tuberculosis, we may conclude that the principal indications are: an early diagnosis and prompt measures. To place the patient under the very best hygienic surroundings in order to increase his natural power of resistance and to favor the local process of repair. To improve his nutrition with the aid of proper food, by giving him the greatest amount of fresh air, and by giving him general as well as local rest, to improve his nervous tone and increase his bodily strength by means of graduated exercise, to maintaining a good balance between his mental and physical condition, to treat such local symp-

toms as may interfere with his general health or which may aggravate the local disease. In some classes of cases to produce by tuberculin inoculation an artificial immunity against the effects of the specific toxines. All these conditions can be met only by careful individualization and study of detail in each case.

THE THYROID GLAND.

BY

DR. C. A. PEASE.

The thyroid gland consists of two lateral lobes connected by a narrow strip, the isthmus. The lobes are pyramidal in shape, and the isthmus crosses about the second or third ring of the trachea. Around the thyroid are small gland structures called parathyroids. The superior and inferior thyroid arteries furnish the blood supply, which is so rich that with a hyperemia the gland may be visibly increased in size. It is also of physiological interest to note the relations between the genital organs and goitre. A visible enlargement of the gland may occur during menstruation and pregnancy.

There was very little known of the surgery of the thyroid gland until 25 years ago, when Kocher did much to show the lessened danger from operative interference backing up his observations by thousands of cases since that time.

Moebius, about this time showed that an excessive amount of substance that was secreted by the thyroid gland entered the general circulation by the lymphatic system bearing out that exophthalmic goitre is a poisoning of the body through disease of the thyroid gland and not due to a lesion of the central nervous system. It is a disease due to the pathological development of the thyroid gland.

John C. Warren in the *Surgical Pathology and Therapeutics,* published in 1900, says: "Thyroidectomy has been performed more than fifty times within the past few years mainly by German surgeons for the relief of Graves' disease. The eventual results on the whole are very apt to show themselves during the first days after the operation occasionally leading to death. Putnam suggests that these symptoms may be due to poisoning with a thyroid secretion squeezed out during the operation and healing of the wound."

The function of the thyroid gland is to furnish an internal secretion that is necessary for maintaining the body. If this secretion is diminished, we have the condition of myxedema or hypothyroidism, manifesting itself by swelling of the subcutaneous tissues.

The thyroid should be fully developed at puberty and seems to be one of the causes of the beginning of menstruation and when it is not normally developed and secreting, the genital organs do not properly functionate. It enlarges before the menstrual epoch and the patient has the nervous and exciting symptoms that can be caused by an increased secretion of the thyroid. The increased secretion and enlargement of the thyroid during pregnancy is necessary for the growth of the fetus. If the thyroid does not diminish its secretion after the menopause, the patient is liable to have nervousness, hot flashes, vaso-motor disturbances, palpitations and sleeplessness.

The tendency is for a gradual increase of connective tissue and a higher blood pressure after 45. The blood pressure can be lowered by the use of the thyroid extract.

It is estimated that an amount of blood equal to that of the entire body, passes through the thyroid gland every hour. When the gland and blood vessels are dilated as they are in Graves' disease, twice that amount might pass through and the blood contain twice as much secretion as normal, causing the thyroid intoxication. The thyroid is probably the only organ in the body that contains iodin and it contains the most between the ages of 15 and 40, when the body is the most active.

The activity of thyroid and the production of iodin is diminished in chronic constitutional and infectious diseases. The administration of iodin is a stimulant to the thyroid gland and will increase the iodin content to a certain amount which shows that there is a necessity of large doses of iodin as the best action is in stimulation of the thyroid and increasing its iodin content.

The gland's activity being increased by iodin depends on its ability to store it and not on the method of administration. Marine claims that the hypersecretion of the thyroid in exophthalmic goitre will be myxedema or relative recovery if the patient does not recover, myxedema and cretinism representing the final stage of diminished secretion.

Hunt says that the normal swelling of the thyroid gland during pregnancy and menstruation is more noticeable in goitrous regions and in these places there is less iodin in the thyroid. The conclusion being that a hyperplastic thyroid without much increase of colloid will become normal by administering small doses of iodin, but if it was Graves' disease, the iodin would be harmful.

It is not known whether iodin is constantly present in the parathyroids or not. It is possible that the parathyroid assists the thyroid in its work when the latter is diseased and they hypertrophy when the thyroid is partly removed. Also if the parathyroids are removed, the thyroid secretion is disturbed.

That the thyroid has antitoxic properties is shown by the fact that in animals where the thyroid has been removed the urine is much more toxic.

The thyroid seems to have some control over the development of connective tissues for when the secretion is diminished as occurs at 45, there is often an increase of connective tissues. The size of the thyroid is no guide to go by as to the amount of secretion furnished. While it is large it may be furnishing a small amount of secretion and vice versa. Increased secretion irritates and stimulates the brain while if it is diminished a lessened mentality results. The thyroid probably becomes congested and stimulated with every infection.

Lorand of Vienna, believes that the thyroid is an active agent in antagonizing all infections and that when it is stimulated it is a cause of the symptoms of fever, as thirst, temperature and sweating, and that when a patient is in a generally debilitated condition the thyroid becomes worn out and that that is the time when tuberculosis is more liable to develop. After serious infections the thyroid seems to develop more connective tissue. This may be a reason why arteriosclerosis occurs earlier in people who have had severe illnesses, diminished thyroid secretion tending to cause arteriosclerosis. The fact that a gland is palpable and large is no positive assurance that it is performing its function properly, but one should be guided by the symptoms present.

Sometimes an undersized thyroid gland is found hypersecreting but this is more rare than an undersecreting hypertrophied gland.

The thyroid is stimulated by great joy or sorrow, sexual excitement, nervous tension, pregnancy, coffee, tea, meat, iodide, phosphorus, alcohol and thyroid extract. The thyroid is depressed by quiet, seclusion, rest, milk, cereal diet, absence of sexual excitement, ergot, opium, calcium in all forms, bromides and chloral. When we know more of the chemical analysis of the thyroid gland it will probably be found that although there may not be much change in the gland histologically, yet there is a marked change in the amount and chemical composition of the thyroid secretion.

The increased activity of the thyroid in women during excitement and its tendency to slowly recede is the cause of their nervous hysterical and excitable natures. We may have times of normal secretion alternating with disturbed secretion as shown by asthmatic attacks, urticarial attacks, eczematous eruptions, rheumatic attacks, migraine, and tachycardia. To sum up the symptoms caused by hypersecretion are:

1. Menstrual disturbances.
2. Hysteria.
3. Tachycardia.
4. Symptoms of the menopause.
5. Graves' disease.
6. Puerperal insanity.
7. Acute mania.

Profuse menstruation in young girls is usually due to an increase of the activity of the thyroid gland, this is also the cause in older women who do not have other pathological causes as endometritis fibroids, etc., as when the menstruation is every 2 or 3 weeks.

There has never been any lesion found in hysteria, but many of the symptoms of hyper and hyposecretion of the thyroid gland seem to coincide with hysteria very well. The rapid heart, laughing and crying, flushing, sweating, fever and pains that are not referable to a special cause or the slow heart, apathy, hysterical indifference, and moroseness may occur. Tachycardia occurring from any little excitement where there is no cardiac lesion is probably due to thyroid hyperactivity.

Menopause symptoms are those of thyroid activity. When they cease gradually the thyroid ceases its periodic hyperactivity.

Menopause symptoms are those of thyroid activity. When they cease gradually the thyroid ceases its periodic hyperactivity.

Where there are long periods of intermittency the thyroid persists in its cyclic hypertrophy and hyperactivity and the blood not being able to get rid of the extra thyroid secretion by bleeding, the woman has the hot flashes, restlessness, sweating, palpitation, and even hysteria. She may be relieved by bleeding from the nose, diarrhea or other depleting conditions.

The fact that the symptoms of the menopause are due to a hyperactivity of the thyroid is not usually recognized. If the thyroid lessens its secretion too rapidly the patient puts on weight rapidly and may even develop myxedema. Puerperal insanity is probably due to a hypersecreting thyroid. During pregnancy the thyroid should be hypersecreting and if it is not sufficiently puerperal eclampsia may develop. That the excessive secretion is used is shown by the fact that women having Graves' disease often do not show the symptoms of it during pregnancy. I recall one case that I have had under observation for several years when the exophthalmos, tachycardia and enlargement of the thyroid would nearly all disappear but return again shortly after confinement. Women suffering from thyroid disease should not marry.

When a child grows tall very rapidly and the bone formation is rapid the epiphyses unite with the long bones earlier than when the children grow slowly. Probably the rapid heart in many of the acute infections is due to involvement of the thyroid.

The greater the hypertrophy and blood supply the nearer we have hyperthyroidism, while if we have colloid material and cysts the ordinary goitre exists and a large amount of fibrous and connective tissue with an undersecretion results in myxedema. The thyroid often enlarges on account of a lack of iodin, and small doses of preferably sodium iodid (from 1 to 1½ grs.) one to three times a day is often beneficial. If the gland is susceptible to iodin, the symptoms of Graves' disease may be precipitated. If symptoms of hypersecretion are noticed when administrating iodin or thyroid, it should be discontinued at once. In fact in any enlargement of the thyroid the administration of thyroid extract should be tried with care for fear of bringing on Graves' disease.

Large doses of thyroid extract should not be used to reduce the size of the gland for the symptoms would prohibit its use to that extent. The injection of iodin or the use of the X-ray are of questionable value.

In the prethyroid stage of Graves' thyroid disease, the rapid development of hyperthyroidism is doubtful. If the history is carefully taken, signs of the disease will manifest themselves. Women with uterine trouble are liable to the disease. Trembling, palpitation, sleeplessness and loss of weight are signs that the gland could become stimulated to produce hyperthyroidism.

The actual symptoms of developing Graves' disease are tachycardia, enlargement of the thyroid and nervous irritability. If in doubt as to whether or not—give the patient a three grain thyroid tablet once a day and in 4 or 5 days all this will be markedly intensified if the patient has increased thyroid secretions. The other prominent symptoms of Graves' disease are exophthalmos, enlarged thyroid and palpitation. The palpitation is the most frequent and enlargement of the thyroid next.

Exophthalmos may be present in a slight degree only, or in one eye. It is probably due to dilated blood vessels at the back of the orbit as it disappears after death. The thyroid may be enlarged as a whole or only half of it and it varies at times, causing a variation of pressure. A part of the gland may show colloid or cystic degeneration, while the rest continues to hypersecrete. Palpitation is almost always present lasting for weeks. No other disease will allow a patient to be about with a pulse of 120-140 and attend to his business and not know that he is suffering from palpitation, and he would have dyspnea and cardiac distress. The pulse is sometimes irregular. The right ventricle is hypertrophied and later may be dilated. Myocarditis may develop and this is one of the dangers if operations are not done until this does develop.

The tremor is almost constantly present and may affect the head, hands or tongue. There is loss of weight. The patient sweats easily. Has muscular weakness, edema of feet and ankles. There may be polyuria, albuminuria or glycosuria. The eye symptoms are (1) inability of the upper lid to follow the eyeball on looking down; (2) the unusual amount of sclera disclosed above the cornea caused by the retraction of the upper lid when the patient is looking down; (3) the difficulties or actual inability of the patient to hold the eye in the position of

convergence; (4) there may also be involuntary winking and tremor of the eyeball.

The skin is soft and moist. There may be a falling of hair or it may be prematurely gray.

Duration is from two to ten years, may terminate by myocarditis, diabetes, pernicious anemia, melancholia or chorea. If active thyroid disturbance has lasted five years the chance of complete recovery is small.

DIAGNOSIS.

The diagnosis of goitre is easy from its being attached to the trachea so that it moves with the larynx during swallowing. There is no fixed rule as to the lobes involved. Most frequently one lateral lobe is the most enlarged with some enlargement of the middle and less of the other lateral lobe. A goitre may sometimes be taken for a brachial cyst but the latter is uniform in shape and fluctuation can be felt and also the normal gland below the cyst. A surgeon is rarely called upon to treat a simple goitre until it is large enough so that the patient object to its looks. In exophthalmic goitre great stress has been laid for a long time on the exophthalmos and later tachycardia was added. Now it is claimed by many clinicians that the diagnosis may be made when tachycardia is present that cannot be explained by any other pathological theory. If there are other symptoms but not exophthalmos or goitre and if either of these two are present the diagnosis is positive.

There is often a marked difference between the extent of the goitre and the muscular weakness, tremor and tachycardia, but it is easy to understand how the secretion of a small portion of the gland may produce the symptoms.

The rapidity of the pulse and prominence of the eyes may vary greatly from week to week. The excessive use of tobacco, alcohol, or the coal tar products and great sorrow or fright, may cause the tachycardia or tremor. The explanation of this being that any slight pathological condition of the gland under these influences, may have an over production of the normal secretion where it had been able to take care of it before, yet under the depressed state, commences to show the symptoms of thyroid poison.

The prognosis is uncertain where there is a family tendency to a neurotic condition. If the onset is rapid the recovery is usually quicker. The older the patients the sooner they will recover. If the patients having attacks when young recover, they are liable to a recurrence. Many patients can be improved by treatment but with the improved technique in operation the patient should not be allowed to develop prolonged tachycardia for the heart muscle may be permanently damaged. In the treatment of the disease if not sure of a diagnosis small doses of thyroid as has been mentioned should be given for a week, three grains of the official thyroid powder once a day is sufficient to find out if the thyroid is hypersecreting. If it is, the treatment is routine except that rest in bed is not required. Coffee, tea, meat, and alcohol, should be stopped. Elixir of the glycerophosphates of lime and soda for a tonic. Bromids may be used if patient is robust but generally they are not, so that there is a contraindication.

Small doses of iodid may be tried when the thyroid gland is large, and active symptoms of Graves' disease are not present, but if they are the symptoms are usually made worse as they are when thyroid is used.

The patient should have rest in bed and if the glycerophosphates of lime and soda do not quiet the heart, quinine hydrobromid gr. 5, three times daily can be tried, with or without one grain of ergotin. Improvement should be observed within 48 hours which is continued until the patient is normal. The diet should be carefully regulated, peptonized milk, vegetables, (except peas, beans and asparagus) bread, rice, eggs, fish and poultry, but no butcher's meat. General hydrotherapy is good. Arsenic is believed to have a modifying influence on the thyroid but must be given for a long time. Table salt should be reduced to a minimum.

Atropin is of little value or is suprarenal extract. Opium in any form diminishes the secretion but its use is not justifiable. Digitalis, strophanthus and strychnine are of little value. The heart should be quieted by rest and calcium preparations. The fluid extract of ergot one-half teaspoonful three times daily is often beneficial. X-ray or any irritation of the gland should be avoided. Various serums have been prepared but no special benefit is had from them. If a patient does not improve under the treatment mentioned in three or four months they should have a partial thyroidectomy.

Dr. C. H. Mayo advises that ether is the best anesthetic, preceding its administration one-half

hour by a hypodermic of 1/6 of a grain of morphine with atropin. The patient is placed in the reversed Trendelenburg posture. He leaves the posterior capsule of the gland undamaged so as to not remove the parathyroids and care is taken to not injure the recurrent laryngeal nerve. He washes the wound with a solution (alcohol 640 parts, water 300 parts, HCl 60 parts, bichlorid 8 parts) this prevents lymphatic absorption. The patients are also given normal salt solution by the rectum or subcutaneously.

College Street, Burlington.

DRUGS.

It is not difficult to account for the almost universal belief in the efficacy of drugs. There is a mystery about their preparation and manner of use which appeals powerfully to the imagination inducing in the patient a kind of mind-cure too real to be underestimated or despised.

Moreover, it is customary to think, or, rather to believe without thinking, that drugs, in some incomprehensible way, "go directly to the spot" and by their own inherent power, induce a direct and immediate change in diseased conditions.

Such a conception, however, is far from correct. A drug, unless its chemical affinity is strong enough to destroy the vitality of the parts with which it comes in contact, takes no active part in the process of cure. On the contrary, it is acted upon. It can be useful only when, like food, air, water, or any other substance which ministers to the needs of the body, it is subject to the control of physiological laws.

Vital action proceeds by the same regular and established methods in illness as it does in health, and from these methods there can be no variation except that of degree.

Drugs can act remedially only by stimulating or repressing orderly vital processes. To set these processes aside and substitute an action of their own, could have but one result—the cessation of life.

As a remedial measure drugs are far from being infallible. Not only are there many serious and painful conditions of ill health which they are powerless either to relieve or cure, but even in those cases most favorable for their employment there are conditions arising from their own inherent nature which greatly lessen their effectiveness.

DISEASE, in whatever form or location it may appear, is simply the *abnormal action of the very same processes whose normal activity always results in health.*

The vital processes which are responsible for both of these conditions are respiration, circulation, digestion, assimilation, and elimination —processes which everyone knows are readily modified by a variety of external influences. In fact, the condition called health depends almost entirely upon the effect which external influences as heat, cold, dampness, clothing, exercise, etc., exert upon the vital organs. When the vital organs are in a diseased state their susceptibility to external influences is even greater than when they are in a state of health; but, unfortunately, this fact is not generally believed to possess any remedial significance.

A proper conception of disease brings with it a correct idea of what constitutes a remedy. As disease is an abnormal mode of action of vital processes and organs, any substance or force which can be used to modify or regulate these abnormal activities becomes a remedy.

PROPER TEMPERATURE FOR PASTEURIZING MILK.

Moze, Gerault and Direscu point out that in pasteurizing milk the temperature must not be kept too high or else there will ensue a destruction of the physiological ferments of the milk and its action is changed. It is enough to raise the heat to 67° or 68° C. (152.6° or 158.4° F.) in order to destroy all pathogenic germs, if it is maintained sufficiently long, say, ten minutes.—*Wien. Mediz Woch.*, 1910, col. 44.

DIRECT TRANSFUSION OF BLOOD.

Holtz reports five cases in which severe losses of blood were compensated by direct transfusion of the whole blood from the artery of another person sutured directly in the median vein of the patient. A near relative is the best for the purpose, as there is presumably less difference in the composition of the blood. The details of each case are given, the results on the whole being very encouraging.

He.—"We'd have won the football game if our captain hadn't lost his head."

She.—"Mercy! Was it so bad as that? I heard it was only an ear."—*Ky. Med. Jour.*

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D.,
B. H. STONE, M. D., } .....*Editors.*

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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

BURLINGTON, VT., JUNE 15, 1911.

EDITORIAL.

For the second time during this year the College of Medicine and the community at large is shocked and saddened by the untimely death of one of its most active, able and respected physicians. A short time ago Dr. A. O. J. Kelly and now Dr. Samuel E. Maynard. Dr. Maynard's death will be felt most keenly not only by his immediate associates in the profession and college but by the entire community and a host of friends and patients throughout the whole state for his work in the last few years had greatly extended. Dr. Maynard's life was one that earned for him universal respect, his career one claiming admiration and finally his personality one which secured for him not only the warm esteem of his associates but the love of his patients and their friends. Just in the zenith of his career an attack of acute appendicitis found him worn with work from which he never spared himself and his recuperative powers failed of the demand upon them and he died—leaving behind him the vivid memory of a strong, forceful man, a skilled and successful surgeon, an indefatigable worker and a most lovable personality. The sympathy of the entire medical profession goes out to the afflicted family.

The question of immediate postgraduate study at home or abroad is one to be settled by an unlimited number of medical students. Like hospital practice postgraduate work is desirable. It is axiomatic that one should avail himself of all the opportunities for medical training possible to him if he desires to make the most of himself in his professional career; yet we believe it is better for a man to wait until after a few years of practice before starting on a line of postgraduate work. These few years of experience will teach him what he needs, show him his deficiencies and indicate to him his preferences; then he can pursue these studies with a much more definite purpose.

In postgraduate work a man should not ramble too much but should devote himself to strengthening his weak spots. His few years of experience will show him that he needs no bolstering in some lines but much in others. His postgraduate work should round out his medical education if he expects to do general work, or be confined to special lines if he intends to be a specialist. In any case it should be undertaken with a very definite and well defined purpose determined by mature judgment coupled with some experience.

The growth of cities, the multiplicity of hospitals and the constantly increased facilities of travel is conducive to the rise of the specialist. The country physician of fifty or even twenty years ago was a man who treated every manner of ailment afflicting the people of his community from the extraction of an infant or a tooth to the amputation of a leg. Now there is a great

tendency to call in the consultant. In a case of some severity the dentist, the obstetrician or the surgeon is early summoned. This is partially because the general practitioner can thus shift the responsibility onto other shoulders but also because the people are becoming accustomed to it and demand it. It seems to us that there is danger in this tendency. The graduate physician especially if he be hospital trained should treat his own patients. He should feel sure that the patient will really be unnecessarily endangered by his failure to consult the specialist before he suggests the consultation. It is cowardly to shirk the responsibility and he fails to do justice to his patients by incurring the unnecessary cost and to himself by surrendering his own fees. Let the general practitioner be something more than the advance agent for the specialist.

A recent decision handed down by the Appellate Division of the Supreme Court of New York is of such importance in the prophylaxis of venereal disease that we are constrained to give considerable space to it in this issue. The effect of the decision is to make it a criminal offense to spread these diseases and provides an effective method of quarantining individuals who are suspected of being a source of its spread. It does not, of course, and cannot touch clandestine prostitution but it is a step in the right direction and its moral effect will we anticipate be far reaching. The following is an explanation of the decision and a history of its progress to the supreme court:

The clause in the recent inferior courts law permitting city magistrates to impose prison terms on women arrested on the street if an examination proves that they should be sent to a hospital for treatment, was upheld by the Appellate Division of the Supreme Court in a recent decision. The law had been declared unconstitutional in the lower court some months ago in habeas corpus proceedings, and under that decision many women then in the public hospitals on Blackwell's Island were released.

The case was decided by a divided bench, Presiding Justice Ingraham writing the majority opinion, in which Justices Laughlin and Miller concurred. Justice Clarke wrote a minority opinion, declaring the law unconstitutional, in which Justice Dowling concurred. The habeas corpus proceedings were instituted by an organization of women who insisted that the law in question discriminated against their sex, and the case was argued for them by Mrs. Bertha Rembaugh as counsel.

The lower court found fault with the provision of the law which made the sentence of the prisoner after conviction depend upon the report of a physical examination, without an opportunity for a hearing upon the facts entering into the report. It was held that this directs the detention of the accused without due process of law.

Presiding Justice Ingraham in his opinion said that a construction could be put upon the statute which would obviate the objections to it.

"Considering all the provisions of this article of the statute," says Justice Ingraham, "it seems to me that the provisions of section 79 were provisions for the health of the community and were intended to ameliorate the condition of one suffering from one of the most terrible of diseases and to protect the community from infection."

The court found no merit in the contention that the statute is class legislation and that it is unconstitutional because it applies only to women. The crime on which the statute is based applies only to women, the court said.

In his dissenting opinion Justice Miller agrees that the law has for its main object the preservation of health, "but however commendable the

object sought to be attained, no law can be sustained which violates the fundamental constitutional provision that no person shall be deprived of life, liberty or property without due process of law."

With the close of the month the various medical schools of the country are turning out a large number of graduates prepared as well as four years of medical teaching can equip them. A few years ago most of these men would have immediately commenced the practice of their profession, now a large number of them will immediately undertake an intern service in the various hospitals lasting from six months to two years before starting in on the independent practice of the profession. That the hospital training is a great advantage to a man there can be no gainsaying. It in a short time familiarizes the student with the various severe disease complexes and the best methods of treatment to an extent which several years of private practice would fail to do. But hospital and private practice are far from being parallel and the hospital graduate at the end of his two years intern service may find that he has many things to learn about treating the sick in their own homes which his confrere who went from the college direct into private work has already learned. It is probable that given two men of equal ability and equally fortunate in location that the end of a five year period will find the man with the hospital training ahead of the other. Yet everyone has seen apparent exceptions to this rule. While we believe that the hospital training is desirable and should be taken advantage of if possible we do not think that the man who cannot secure it or afford the time for it should consider himself hopelessly handicapped. He will acquire the actual experience, perhaps more painfully and certainly more slowly, which is so valuable to the successful doctor.

Circular issued by the American Orthopedic Association and the American Pediatric Society in reference to acute epidemic poliomyelitis, and addressed to health authorities and boards of health.

Anterior poliomyelitis is, so far as known, a communicable disease, being communicated from one patient to another and also by means of a third person. It occurs in epidemics and tends to spread along the lines of greatest travel. There is reason to believe that it is prevented from spreading by quarantine, and with the very great prevalence of the disease in the summer of 1910 it is the opinion of this committee that it is essential that it should be made a reportable disease in all states in order that its presence may be detected and its spread guarded against.

Of particular significance are the so-called abortive cases, where indefinite ailments occur in children in communities where frank paralysis also exists. These abortive cases of infantile paralysis are undoubtedly a source of infection, and their record and study is of much importance. In a community where cases of infantile paralysis occur cases of illness with sudden onset of fever and meningeal symptoms should be closely watched and regarded as possibly infectious. In such cases even recovery without paralysis does not establish the fact that the case was not abortive infantile paralysis.

All cases of infantile paralysis should be strictly quarantined, sputum, urine and feces being disinfected, and the same rigid precautions being adopted as in scarlet fever. This quarantine should, in the opinion of the committee, last for four weeks in the absence of definite knowledge as to when the infection ends. Children from infected families should not be allowed to go to school until the quarantine is abandoned. The transportation or transfer of

acute cases in public conveyances should be strictly forbidden. It would be very desirable to adopt provisional quarantine measures in suspicious cases in a community where an epidemic prevails. The report of all cases of infantile paralysis to the public health authorities should be enforced by law, and all deaths from this cause should be properly described and registered. A careful study of epidemics by public health authorities is strongly advised.

(Signed)

Robert W. Lovett, M. D., Chairman.
Henry Koplik, M. D.,
H. Winnett Orr, M. D.,
Irving M. Snow, M. D., Secretary.

OBITUARY.

SAMUEL E. MAYNARD.

The whole community will mourn the death of Dr. Samuel E. Maynard, which occurred at the Mary Fletcher Hospital June 2. Dr. Maynard was operated upon for appendicitis May 27. The operation was successful and it was thought that after a comparatively short time he would be restored to his usual health. He did not gain, however, as he should have done, and after the first three days, his condition becoming serious, it was decided to obtain relief by another incision. The second operation might have brought relief if his recuperative powers had not already been severely taxed. As it was, he survived but a short time, and died at 5:30 o'clock.

Dr. Maynard from boyhood had lived in Burlington and was known to everyone, and everyone who knew him respected and esteemed him. He was eminent in his profession and had steadily raised himself, therein, by his industry, untiring energy and great devotion. He was naturally a strong man, in college an athlete, and yet he undoubtedly worked often beyond his strength. There were times when he could have saved himself, had not his careful, conscientious attendance to those for the time under his care led him to sacrifice himself for them. Hundreds here in Burlington alone remember with gratitude and affection his attention and his skill, and will grieve with all, who in any way were associated with him, that the city has lost one who was so universally looked up to, esteemed and loved.

Samuel Erskine Maynard was born in Williston, Vt., Dec. 8, 1868. After a year in the academic department of the University, he graduated from the medical department in 1891. He



DR. S. E. MAYNARD.

was house surgeon at the Mary Fletcher Hospital, took postgraduate work at the New York Lying-in Hospital, the College of Physicians and Surgeons and the Roosevelt Hospital, and during a year had postgraduate work at Vienna and at the University of Berlin. He was formerly instructor at the University of Vermont, medical department, adjunct professor of practice, and during the last three years has been professor of gynecology, and for several years attending surgeon at the Mary Fletcher and Fanny Allen hospitals. He was division surgeon of the Rutland railroad, and surgeon of the Central Vermont railroad, consulting surgeon to the Champlain Valley Hospital, Plattsburg, N. Y., member of the New York and New England Association of Railway Surgeons, of the Burlington and Chittenden County Clinical Society, of the Vermont Medical Society and of the American Medical Association, the annual meeting of which Dr. May-

nard expected to attend this month in Los Angeles, Cal. At the time of his death he had a paper prepared to be read before the Canadian Medical Society at Montreal on the results of a certain operation in gynecology.

Dr. Maynard started practice in Burlington with Dr. H. R. Watkins, later being associated for three years with Dr. L. M. Bingham. He is survived by his wife, Mrs. Mattie C. (Field) Maynard, to whom he was married in 1895, by two daughter, Miss Norma Field Maynard and Martha Davis Maynard, by his mother, Mrs. E. R. Maynard, whose home has been with him, a sister, Mrs. George R. Clark of Boston, a niece, Miss Belle C. Maynard of Poughkeepsie, and a nephew, Robert L. Maynard of the medical college.

Leander Dixon Rand, M. D., University of Vermont, Burlington, 1888, a member of the Maine Medical Association, died at his home in Fairfield, April 8th, from cerebral hemorrhage, aged 48 years.

Vesley Marvin Newcomb, M. D., University of Vermont, Burlington, 1884; a member of the New Hampshire Medical Society, a physician of Somersworth, and a numismatist of note, died at his home, April 25, from cirrhosis of the liver, aged 55.

Dr. William R. Dunham of Keene, N. H., died at his home May 8th, aged 77 years. Dr. Dunham graduated at Harvard in 1864 and has practiced his profession in Keene for thirty-five years.

Dr. Ellis G. Roberts of Fair Haven, Vt., died at his home, May 29. Dr. Roberts was a graduate of Harvard Medical College and had practiced in Fair Haven for twenty-six years.

NEWS ITEMS.

Dr. A. Merriman Brown has opened an office for general practice in Enosburg Falls.

Mrs. Nettie May Luce, the wife of Dr. Thomas W. Luce of Portsmouth, N. H., died May 6th, 1911. Dr. Luce graduated from the University of Vermont in the class of ——.

Dr. J. B. Pettingill, who has practiced in Amherst, N. H., for 25 years, died April 30 from an abscess on the brain. He was 55 years old. Dr. Pettingill graduated from the University of Vermont in the class of 1883.

Dr. Sadie A. Mulvanity, who has practiced at Manchester, N. H., for the past year, has taken up institutional work in Boston, Mass.

Dr. H. L. Stickney of Manchester, N. H., closed his private hospital June 1st permanently, not from lack of prosperity and patronage, but because the responsibility and work connected with the institution was too great for the returns.

Dr. and Mrs. T. S. Brown of Burlington are the parents of a baby boy, born April 28th.

Dr. L. B. Gordon of Mount Holly has recently settled in Readsboro, taking the practice of M. O. Eddy, who has moved to Jericho Center.

Dr. R. B. Thomas has opened an office for general practice in Enosburg Falls.

Dr. William McFarland, formerly of the Boston City Hospital, has started practicing in Barre.

Dr. J. H. Woodruff, who went to Barre last fall, has changed his office to South Main street.

Dr. G. G. Kelly, a well known physician in Elizabeth, N. J., has purchased the practice of Dr. Logan at Woodstock, Vt., and is now located there.

Dr. J. P. McDowell has left Middletown Springs, Vt., to practice in his home at Penn Yan, New York State.

Dr. L. G. Belisle has recently come to West Rutland from Livermore Falls, Maine.

Dr. C. W. Phillips has removed from Arlington, Vt., to Bennington, Vt.

Dr. I. P. Sharon has located in Starksboro, Vt., taking the place of Dr. C. W. Kidder, who is now in Woodstock, Vt.

Dr. Ulrick Lafountain has opened an office for general practice at Somersworth, N. H.

Dr. Ralph W. Tuttle, Harvard 1908, has opened an office in Manchester, N. H.

Dr. E. R. Clark, Castleton, Vt., has just been re-elected president of the Rutland County Sunday School Association.

Dr. Richard Williams, who practiced 30 years ago in Fair Haven, was buried in that place May 28. He died at the Soldiers' Home in Bennington, Vt., where he had lived for several years.

Dr. William M. Parsons of Manchester, N. H., recently celebrated his 85th birthday. There was an observance of the day by the members of Dr. Parsons' immediate family. A dinner was enjoyed in honor of the occasion and many of the doctor's friends remembered him with floral tributes. Dr. Parsons is a native of Gilmanton and studied medicine at Dartmouth and Vermont Medical College, receiving his diploma from the latter institution in 1851. He settled in Bennington for a time, then practiced in Antrim and later returned to Bennington, from which place he came to Manchester in 1873. He served the city with devotion on the board of health many years, especially in the smallpox outbreak of 1901. He retired from the board a number of years ago.

Siegfried Block and Prince C. Hopkins have started a new phase of psycho-therapy. They are attempting in a strictly ethical and scientific manner to introduce this matter to the medical profession about the same way it is done in the various centres of learning in Europe. One is a psychologist and the other an alienist and neurologist. They will treat only recommended patients, using all of the psycho-therapeutics methods now in vogue, including Frend's Psycho-Analysis, Block's Relaxation, Hypnotism, memory and association tests, etc. They are especially desirous of receiving such cases as the various hysterical manifestations: (choreics, tics, phobias, paralytics, psychasthenics, egos, stutterers, stammerers, hallucinations, fiends, alcoholic and morphinists, etc.). The idea is novel in that one man in each branch will attempt to combine psychology and medicine, thus assuring the best results in a sane and scientific manner. They have established offices at Hotel Astor, 44th Street and Broadway, having hours on Saturday afternoon from two until five o'clock.

Owing to the death of Dr. A. H. Kinse and the Departure of Dr. J. P. McDowell, Middletown Springs is now left with only one physician.

The one hundred and twentieth annual meeting of the New Hampshire Medical Society was held at Concord, N. H., on May 11 and 12. The weather was most oppressively warm which probably accounted for the poor attendance at the sessions, but there were several very interesting papers read, notable among them being that by Dr. W. Gilmar Thompson of New York on "Sera and Vaccines" and the one on "Medical Inspection of Schools," by Dr. Zatae L. Straw of Manchester, N. H. The banquet was held at the Eagle Hotel on the evening of the first day of the meeting. Dr. George W. McGregor of Littleton was elected president of the society for the coming year, and Concord was again chosen as the place of meeting for 1912. There were quite a number of exhibits in connection with the meeting, Lea and Febiger having the most prominent position with their latest publications.

The thirteenth annual meeting of the American Proctological Society will be held at Los Angeles, Cal., June 26 and 27, 1911. Headquarters and place of meeting, Hotel Alexandria, corner 5th and Spring. The profession is cordially invited to attend all meetings. Papers to be given are as follows:

1.—A Review of Proctologic Literature for 1910, Samuel T. Earle, Baltimore, Md.

2.—How Can Diverticulae of the Sigmoid Produce Abscess in the Retro-peritoneal Space? A. Teirlinck, Gand, Belgium.

3.—Some Observations Upon Surgical Anatomy and Mechanism of the Colon, Granville S. Hanes, Louisville, Ky.

4.—Treatment of Rectal Diseases by Ambulant Methods, Wm. L. Dickinson, Saginaw, Mich.

5.—Have We an Ideal Operation for Internal Hemorrhoids? A. B. Cooke, Nashville, Tenn.

6.—The Clamp and Cautery Operation for Hemorrhoids, Chas. S. Gilman, Boston, Mass.

7.—Symposium on Constipation.

(*a*) Etiology.
Horace Heath, Denver, Col.

(*b*) Physiology.
S. T. Earle, Baltimore, Md.

(*c*) Bacteriology and Urinary Findings.
John L. Jelks, Memphis, Tenn.

(*d*) Pathology and Diagnosis.
Wm. M. Beach, Pittsburgh, Pa.

(e) Sequelae Including Autointoxication.
A. J. Zobel, San Francisco, Cal.
(f) Psycotherapy, Mechanical, Electrical Treatment, and Massage.
Jas. A. MacMillan, Detroit, Mich.
(g) Non-surgical Treatment.
Dwight H. Murray, Syracuse, N. Y.
(h) Surgical Treatment.
Louis J. Hirschman, Detroit, Mich.

8.—Universal Abuse of Purgatives in the Treatment of Constipation.
Leon Straus, St. Louis, Mo.

9.—Cancer of the Rectum.
J. R. Pennington, Chicago, Ill.

10.—Pigmentation of the Rectum and Sigmoid, with Report of a Case.
Jerome M. Lynch, New York City, N. Y.

11.—Observations Upon Relationship of Tuberculosis to Peri-rectal Suppurations.
Collier F. Martin, Philadelphia, Pa.

12.—Reflex Disturbances Referable to the Rectum.
T. Chittenden Hill, Boston, Mass.

13.—(a) Malformation of Rectum and Anus, with Report of a Case.
(b) Pruritus Ani, with Report of a Case.
Donly C. Hawley, Burlington. Vt.

14.—Radiograph in Entero-Proctology.
F. C. Yeomans, New York City, N. Y.

15.—Some Practical Considerations of the Etiology of Diarrhea and Its Treatment.
Alois B. Graham, Indianapolis, Ind.

16.—Fads and Fallacies of a Valvotomist.
Thomas Charles Martin, Washington, D. C.

17.—Syphilitic Affections of the Rectum and Anus.
Lewis H. Adler, Jr., Philadelphia, Pa.

The Connecticut River Valley Medical Association held its annual meeting at Hotel Windham, Bellows Falls, Vt., on Tuesday, May 2d, 1911. at 1 o'clock in the afternoon. The programme was as follows:

President's Address, Pneumonia,
Dr. F. L. Osgood, Townshend, Vt.
Extra-uterine pregnancy,
Dr. R. H. Seelye, Springfield Mass.
General peritonitis the result of a perforated Appendix, Report of Cases,
Dr. M. R. Crain, Rutland, Vt.
Diagnosis and prognosis of valvular lesions of the Heart,
Dr. C. H. Beecher, Burlington, Vt.
Appendicitis in children,
Dr. J. J. Osterhout, Keene. N. H.
Reports of cases by members.

The annual session of the Franklin County Medical Society was held May 25, 1911. at St. Albans, Vt., with the following program:

"The Obituary of the late Dr. F. S. Hutchinson," by Dr. Alan Davidson, St. Albans, Vt.
"The History of Syphilis," by Dr. C. C. Scofield, Richford, Vt.
"The Diagnosis of Syphilis," by Dr. W. J. Upton, St. Albans. Vt.
"The use of Salvarsan in the treatment of Syphilis," by Dr. C. B. Keenan of Montreal.

The American Red Cross announces, in connection with the International Conference of the Red Cross which will be held at Washington, D. C., in May, 1912, that the Marie Feodorovna prizes will be awarded.

These prizes, as may be remembered, represent the interest on a fund of 100,000 rubles which the Dowager Empress of Russia established some ten years ago for the purpose of diminishing the sufferings of sick and wounded in war. Prizes are awarded at intervals of five years, and this is the second occasion of this character. These prizes in 1912 will be as follows:

1 of 6,000 rubles.
2 of 3,000 rubles each.
6 of 1,000 rubles each.

The subjects decided upon for the competition are:

(1) Organization of evacuation methods for wounded on the battle field, involving as much economy as possible in bearers.
(2) Surgeon's portable lavatories for war.
(3) Methods of applying dressings at aid stations and in ambulances.
(4) Wheeled stretchers.
(5) Support for a stretcher on the back of a mule.
(6) Easily portable folding stretcher.
(7) Transport of wounded between men-of-war and hospital vessels, and the coast.
(8) The best method of heating railroad cars by a system independent of steam from the locomotive.

(9) The best model of a portable Roentgen-ray apparatus, permitting utilization of X-rays on the battle field and at the first aid stations.

It rests with the jury of award how the prizes will be allotted in respect to the various subjects. That is to say, the largest prize will be awarded for the best solution of any question irrespective of what the question may be.

Further information may be obtained by addressing the Chairman, Exhibit Committee, American Red Cross, Washington, D. C.

Very respectfully,

CHARLES LYNCH,
Major, Med. Corps, U. S. Army,
Chairman, Exhibit Committee.

The 42nd annual meeting of the American Medical Editors' Association will be held at the Alexandria Hotel, Los Angeles, on June 26th and 27th, under the Presidency of Dr. J. MacDonald, Jr. of N. Y. with the annual banquet on the evening of Monday, June 26th, at the above hotel.

Among the papers to be presented at this meeting are the following all of which are of interest to medical editors, and all doctors who are journalistically interested are invited to attend this session.

"Relation of the Medical Press to the Public Health and Marine Hospital Service," by Walter Wyman, Surgeon General.

"The Advisability of Newspapers and Magazines Having Medical Editors on their Staff," by Edgar A. Vander Veer, M. D.

"Some Things I have Learned As a Western Medical Editor," by Edward C. Hill, M. D.

"Some Elements of Success in Medical Journalism," by J. M. French, M. D.

"The Medical Reporter from his Own Standpoint," by E. Franklin Smith, M. D.

"Physical Therapeutics in the Medical Press," by Arnold Snow, M. D.

"What Shall *We* Publish," by J. R. Phelan, M. D.

"The Extension of Advertising in Medical Journals," by S. DeWitt Clough.

"Medical Expert Testimony," by R. B. H. Gradwohl, M. D.

"The Hospital Bulletin as a Factor in Medical Journalism," by George W. Kosmac, M. D.

"The Literary Side of Medical Journalism," by T. D. Crothers, M. D.

"Private Owned Medical Journals," by Henry W. Coe, M. D.

"The Influence of Medical Journalism for Medical Progress," by W. Benham Snow, M. D.

"Editorial Independence," by T. G. Atkinson, M. D.

Subject to be announced, by C. G. Hughes, M. D.

Subject to be announced, by William Porter, M. D.

The regular meeting of the Burlington and Chittenden County Clinical Society was held at Morrill Hall, Thursday evening, May 25th, at 8.40 o'clock, with the following programme:

The X-Ray in Diagnosis of Tuberculosis,
Dr. W. J. Dodd of Boston.

The Present Treatment of Tuberculosis,
Dr. Walter C. Klotz of Pittsford.

The New York Post-Graduate has plans and descriptions of its new school and hospital, at the International Hygiene Exhibit at Dresden, Germany.

Dr. George W. Galvin, who founded the Emergency Hospital in Boston, has been expelled from the State Medical Society of Massachusetts for "gross violation of the by-laws and code of ethics." He was charged with inserting advertisements of a remedy for certain infectious diseases in two Boston newspapers. The remedy was one recently discovered by a German doctor.

Governor Bass of New Hampshire, Dr. Charles W. Eliot, former president of Harvard University, and Dr. Arthur Cabot of Boston delivered addresses at the dedication of the Bigelow Memorial Hospital, which was opened May 17th at North Conway, N. H. The hospital has 20 beds, all wards and operating departments are on the first floor.

The Appellate Division of the Supreme Court in Brooklyn, N. Y., has just refused to grant a mandamus to Dr. Charles S. Bandel, an osteopath, to compel the recognition by the Board of Health of a death certificate signed by an osteopath. This case has been in the courts since May, 1910, and has been watched with much interest. It may now go to the Court of Appeals.

The Appellate Division of the Supreme Court in New York has upheld the law permiting city magistrates to impose prison terms on women arrested on the street if an examination proves that they should be sent to a hospital for treatment. The law had been declared unconstitutional in the lower courts some months ago. The Appellate Division of the Supreme Court found no merit in the contention that it is unconstitutional because it applies only to women.

A new hospital corporation is forming in Boston, Mass., the corporation is to have a capital stock of $500,000. There will be 25 shares of stock which will carry entire control of the corporation but pay no dividends. These 25 shares are to be owned by 15 doctors and 10 business men who will be the board of directors. The other 4,975 shares will be preferred stock with 5% cumulative dividends.

BOARD OF TRUSTEES U. S. P. C.

The General Medical Convention edited and published the first Pharmacopeia in the series of what is now known as the Pharmacopeia of the United States of America. It was published in Boston, December 15, 1820. The convention provided for the revision of the Pharmacopeia in 1830, the convention being then known as the National Medical Convention. The same name was applied to the conventions of 1840 and 1850. In 1860, the name was changed to the National Convention for Revision of the Pharmacopeia. In 1900, the name was again changed to the United States Pharmacopeial Convention which was duly incorporated. Prior to 1900, business matters, as well as the work of editing, were taken care of by the Committee of Revision. With the incorporation in 1900, business affairs were separated from the work of revision and placed in the hands of a Board of Trustees, having the management of affairs and funds of the convention. The By-laws provide that the Board of Trustees shall transact business involving financial or other matters that may be for the best interests of the convention and perform such other duties as the convention may from time to time direct. The following is the Board of Trustees, as constituted by the convention of May, 1910:

James H. Beal (Chairman), Henry M. Whelpley (Secretary), Frederick W. Meissner, Jr., William Jay Schieffelin and George H. Simmons. Joseph P. Remington and Harvey W. Wiley are ex-officio members. The officers were reelected for the ensuing year.

The board held its first annual meeting for the decennial period, 1910-1920, at Philadelphia, May 5 and 6. All members were present.

The board appropriated funds for use in paying necessary expenses in the work of revision incurred by members of Executive Committee under the direction of Chairman Remington.

The board decided to withdraw from sale those copies of the U. S. P. VIII in which additions and corrections have not been incorporated in the text.

An inventory has been prepared of all of the articles of permanent value purchased since 1900. A record is being made of the location and condition of these articles.

Insurance has been taken out on the electroplates for both the Spanish and English editions which are in the hands of the publisher. Also, on the copies of both the English and Spanish editions which are on sale in the hands of agents.

An auditing committee examined the accounts of the Treasurer, Samuel L. Hilton, and Secretary of the Board, H. M. Whelpley and found the same correct. Expenditures are first authorized by the board and the bills approved by the person under whose supervision the expense is incurred. All bills are next sent to the Secretary of the Board to be audited. The secretary then issues a voucher check which he signs and forwards to Chairman Beal, who in turn signs and forwards the voucher check to Treasurer Hilton, who signs same and mails it to the payee. The original bills with notations are preserved with the records of the Secretary of the Board. The Treasurer of the Convention and the Secretary of the Board keep duplicate accounts of receipts and expenditures as shown by the voucher checks. The following is a summary of the same for the fiscal year just closed (May 1, 1910, to April 30, 1911):

RECEIPTS.

1910.

May 23, 1910, to balance from Treasurer, 1900-1910	$ 8,394.01
May 23 to April 30, 1911, sales English Edition	6,188.02

May 23 to April 30, 1911, sales Spanish Edition		1,169.35
May 23 to April 30, 1911, receipts from use of text		290.00
July 1, 1910, interest on deposits, American S. & T. Co..	$88.91	
Jan. 3, 1911, interest on deposits, American S. & T. Co..	83.02	
		171.92
Total receipts		$16,213.31

EXPENDITURES.

1910-11.

Expense 1910 Convention.

Supplies	$ 79.70	
Printing	53.25	
General	15.73	
Stenographic Report	375.38	
Clerical	198.00	
Abstract	345.17	
		$ 1,067.23

I Revision.

Clerical	$1,847.50	
Meetings	13.89	
Supplies	1,140.97	
Post. and Tel.	146.88	
Experts	52.60	
General	112.67	
		$ 3,314.51
Carried forward		$ 4,381.74

II Publication and Sales.

English Edition	$1,952.56	
Spanish Edition	271.12	
General	9.00	
		$ 2,232.68

III Administration.

Meetings	$ 330.10	
Clerical	666.00	
Supplies	154.65	
Post. and Tel.	67.50	
General	41.53	
		$ 1,259.78
		$ 7,874.20
Cash on deposit American Security Co., to balance as shown by Treasurer Hilton's books and verified by the bank		$ 8,339.11
		$16,213.31

HENRY M. WHELPLEY,
Secretary, Board of Trustees,
U. S. P. C.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

URETER AND BILE DUCT IMPLANTATION.

R. C. COFFEY. Portland, Ore., (*Journal A. M. A.*, February 11), describes the method devised by him of implanting the uterus and bile ducts into the intestines; it avoids the danger, he claims, of making a diverticulum from the intestines to the gall-bladder or urinary bladder with consequent infection of these organs. By investigation of the duodenum and the entrance of the ureters into the bladder he finds that the bile ducts and ureters, after penetrating the serous and muscular coats, pass under the mucous membrane for approximately three-quarters of an inch before emptying, thus making a valvular opening. The question was how to duplicate this artificially. It was found not practicable to pass forceps between the layers of the intestine for the purpose of drawing the ducts through. He recalled that, during the course of a gastro-enterostomy, the mucous membrane puffed up between the cut edges of the serous and muscular coats, and he devised, therefore, the following method: "First, the duct is located and ligated with linen or silk near its point of entrance into the duodenum. It is then cut in two above the ligature and the edges caught and held with mosquito forceps while one wall of the duct is split down with a pair of scissors. A linen suture is then passed through the split end of the duct so as to include about one-half of it, and tied. The linen thread is then thrown around the other half and tied, and the loose ends are threaded into two needles. By this method the full strength of the duct is retained for traction, while the opening is maintained by the split. The end of the duct is then wrapped with gauze while the intestine is prepared for its reception, which is done as follows: The part of the intestine desired is picked up and an incision made down through the peritoneal and muscular coats, including submucous tissue, until the mucous membrane pouts out through the incision. This incision should be about one inch long or more. Second, five or six sutures are passed which pick up the peritoneal and muscular coats on each side of the incision. The suture at the upper end of the incision is tied as a control suture. The intermediate intestinal sutures are lifted up on the flat handle of an instrument as they cross the incision. Now the intestine is brought down close to the end of the split duct and the two needles carrying the threads (traction sutures) are passed on the end of the duct beneath the four or five intestinal sutures and through the stab wound in the mucous membrane into the intestinal lumen and out through the intestinal wall, three-quarters of an inch farther along the intestine and one-eighth to one-quarter inch

apart. By making tension on these threads and at the same time pushing the intestine toward the duct, the duct is drawn beneath the intestinal sutures through the stab wound into the intestinal lumen, when the two ends of the threads on the duct are tied on the outside, thus anchoring the end of the duct on the inside of the intestine at this point. The intestinal sutures are then tied. After this operation the duct lies just beneath the mucous membrane, which has been loosened for approximately three-quarters of an inch of its course, so that it slides easily in its new channel. It is therefore necessary to tack the ureter to the peritoneum of the intestine near its point of entrance by two or three fine linen or silk sutures." The implantation of the bile ducts is performed in the same manner. Details of the experiments on dogs are given. The mortality by the old methods in these animals is high, but the experience with physiologic implantation is much better. Ascending infection seems to be nearly eliminated as a danger, and, if the result of the physiologic method should prove to be as much better in the human subject as it has been in dogs, the mortality would be reduced to a point that would make the operation justifiable. The article is illustrated.

INFANT NUTRITION.

H. D. Chapin, New York (*Journal A. M. A.*, October 22), has studied ill-nourished children and the causes of their condition in New York. The weak action of the stomach, especially of its muscular power, is a source of much trouble in these cases. At best, the musculature of the stomach and intestines is not highly developed in the first years of life and, while the general muscular tone is below par, the condition is more marked. This fact will throw some light on cases in which serious symptoms have been observed during life, but little pathologic changes observed in the mucosa after death. He examined 21 children and found that in nearly all of them the stomachs had not emptied at the end of 2 or 3 hours, and the others gave nearly all a positive Fehling test, and in 4 cases there was a positive Gram test. In 13 cases the butyric acid fermentation could be demonstrated. There is little doubt, he thinks, that, in the large majority of cases, the feeble infant with digestive disturbances is fed too frequently and the stomach does not have time to empty itself between the feedings, and thus each successive feeding becomes contaminated and butyric acid fermentation is set up. In a few cases dilatation was marked. It is interesting, he thinks, to trace the analogy between this condition in the infant and myasthenia gastrica in the adult. While the conditions are not exactly parallel, there is a great deal of similarity, and it may be expected that many symptoms would be improved if care were taken to insure the stomach being empty before again feeding. Chapin calls attention to the changes of view in regard to nutrition of late years; the recognition of the fact that there are different kinds of proteins, carbohydrates and fats, and their digestive properties vary according to the combinations. There is no one rule for feeding infants: some thrive on one thing and some on another, and the question of what is theoretically correct must be subordinated to what will practically work. Some infants thrive on a high proportion of carbohydrates, others on a low, and the same variations are observed with proteins and fats. He has long advocated the use of dextrinized gruels, as some patients seem to thrive especially well with a mixture of carbohydrates in high proportion and a low proportion of fats. This is the reason of the success of Keller's malt soup in many cases, though it sometimes signally fails. The general method to be employed in feeding in difficult cases will have to be determined to a certain extent by experiment with the individual infant. The care taken in trying to find a universally applicable food would better be spent in testing individual capacities and idiosyncrasies. The author has tested Finkelstein's method of feeding, based on the theory that digestive disturbances are caused by the sugar of milk, but his results are not very promising. When results follow this method of feeding he thinks it is due more to the form of protein given than to the lessened amount of sugar.

EHRLICH-HATA REMEDY—"606."

B. C. Corbus, Chicago (*Journal A. M. A.*, October 22), makes a preliminary report from personal observation of the use of this preparation in Wechselmann's clinic in Berlin. He states that he can testify that spirochetes begin to disappear in from eighteen to twenty-four hours after injection of the remedy. Corbus states that the number of different technics is surprising and confusing, as each clinician has his own. Corbus prefers Lesser's technic, which he describes as follows: Take a graduated cylinder with ground glass stopper, in which there are about one dozen glass pearls to assist in mixing. Add "606" salt; immediately add 15 c.c. hot water, shake vigorously until every particle of the salt is dissolved; then add 2 c.c. normal sodium hydrate (NaOH) solution; a precipitate occurs. Then continue to add sodium hydrate solution in very small quantity, shaking vigorously after each addition, until the solution begins to clear; then drop by drop, until we have a clear solution. This should be neutral; if the cylinder does not contain 20 c.c. of solution, sterile water is added up to that amount. Then 10 c.c. of this solution is injected deep into the buttocks on either side, always taking care to cleanse the parts with soap, water and iodin. In every instance patients should be sent to the hospital for treatment, and care should be taken that they rest for one-half hour after the injection. Corbus concludes his article by saying that looking into the future, it seems hard to prophesy what we are to expect from a single injection. In order that our results may fulfil the theory of Ehrlich's "therapia sterilisans magna" the following conditions are necessary: First, one must not administer "606" in any condition that is not of spirochetal origin. Second, there must be absolute certainty of diagnosis by means of the Wassermann reaction or by examination for spirochetes. Third, the most careful and painstaking technic in preparing the substance for injection and in the injection itself must be observed.

For prompt astringent, sedative effect upon the lining membrane of the alimentary canal, there is no preparation of bismuth that equals the hydrated oxide suspended in distilled water, as presented in

Milk of Bismuth

P. D. & CO.

This is a palatable product, each fluidrachm representing the bismuth equivalent of five grains of bismuth subnitrate.

MILK OF BISMUTH, P. D. & CO., is indicated in acute and chronic gastritis, enterocolitis, the diarrheas of typhoid and tuberculosis, dysentery, summer diarrhea of infants, gastric ulcer—in fact, whenever there is evidence of inflammation or bacterial infection of the gastro-intestinal tract. It is free from any trace of arsenic or other impurities and may be prescribed with full confidence that it will agree with the most sensitive stomach.

Supplied in pint, 5-pint and gallon bottles.



◆ ◆ ◆

Although an old and well-tried medicament, many physicians have hesitated to prescribe magnesium oxide because of unfortunate experience with faulty "liquid" and "fluid" preparations.

Milk of Magnesia

P. D. & CO.

affords the full medicinal effect of the active agent without the objectionable features of many similar products. It is a purely aqueous mixture—a uniform liquid preparation, concentrated and active, each fluidounce representing about 32 grains of magnesium hydrate.

MILK OF MAGNESIA, P. D. & CO., is a valuable antacid and gentle laxative in dyspepsia, sick headache and other complaints attended with hyperacidity and constipation, and in diarrhea due to intestinal fermentation. It is applicable in the summer complaints of infants; in the nausea and vomiting of gestation; in the digestive disturbances consequent upon dietary errors.

Supplied in pint, half-pint and 5-pint bottles.



Parke, Davis & Co.

Home Offices and Laboratories,

DETROIT, MICH.

THERAPEUTIC NOTES.

Dyspepsia.—By S. B. McDowell, M. D., Philadelphia, Pa.—"While many of the causes of indigestion may be traceable to faulty secretion of gastric and intestinal fluids as well as general lack of tone in the muscular structure of the tract, still the great proportion of these cases comes from eating too fast. Even under the most favorable conditions, with the best of teeth, rapid mastication cannot properly divide and break up the food particles and bring about the necessary admixture of salivary secretion. Hand in hand with hurried feeding comes over-feeding, and these two evils soon bring about pathological conditions which inhibit or prevent normal processes of digestion and assimilation. Lumps of food taken into the stomach which cannot properly prepare them for the digestive processes of the intestine, act as mechanical irritants to the sensitive gastric membrane, while decomposition and accompanying fermentation tends to further congest the lining membrane and its glandular bodies. Restoration of the defective secretion is our first consideration, and to this end the treatment is directed toward active depletion of the congested membrane by antiseptic measures which encourage exosmosis, thus increasing capillary circulation and gland activity and at the same time guard against hyperacidity. This course combined with thorough mastication of food and regularity of meals will bring about a speedy relief in a manner that cannot be accomplished by artificial digestants. Self-made dyspeptics are cured by this common sense treatment and can eat anything they may choose. Prepare the stomach for the reception of the meal in the following manner: One hour before meals take Glyco-Thymoline pure, two to four drams; five minutes later drink a full glass of hot water. In conjunction with this, and it is most important, have your patient masticate each mouthful of food taken at least twenty times before swallowing.

"When the claim is made that this will cure any case of indigestion, a fact is stated. The principle is a simple one." Glyco-Thymoline soothes the irritated membrane and through its physiological properties, produces a rapid reduction of existing engorgement by exosmosis, stimulates capillary circulation and restores normal gland secretion. The thick accumulations of mucus adhering to the gastric walls are dissolved and the full glass of hot water taken five minutes later serves to wash out any undissolved portions which pass off before the meal is eaten. This leaves the stomach properly cleansed and in a condition that readily allows the admixture of peptic secretion and ingested food. The frequent chewing of each mouthful of food taken is positively necessary as a large proportion of our food is starchy in character and requires complete mastication and admixture of the salivary secretion in order that the Ptyalin, its digestive principle, can come in contact with and transform each particle of starch into sugar ready for assimilation.

This is a simple physiological method of aiding in the establishment of a normal condition, differing entirely from the usual method of using animal ferments to aid digestion, the ultimate result of which is to still further weaken the already partly atrophied digestive glands.

This treatment will improve and to a large extent overcome abnormal conditions such as constipation, sleeplessness, mental depression, etc., dependent upon indigestion.

A Good Bismuth Preparation.—After an exhaustive study of the chemical and physical properties of bismuth and its compounds, the chemical experts of Parke, Davis & Co. two or three years ago succeeded in perfecting what many physicians consider the most eligible preparation of the kind —Milk of Bismuth, P. D. & Co., a mixture containing the hydrated oxide of bismuth in suspension. The product is stable under all ordinary conditions of temperature and exposure to light and air.

The advantage which Milk of Bismuth, P. D. & Co., possesses over other compounds of the metal is the state of fine subdivision in which the hydrated oxide is presented. This insures its more thorough distribution over the mucous surface of the alimentary canal, upon which it exerts a peculiarly beneficial effect. Its action is not only astringent, but, as some writers have observed, it appears to have a specific effect upon certain lesions, as ulcers, causing them to heal. It is also an antacid and protective, and undoubtedly is mildly antiseptic. Each fluidrachm of Milk of Bismuth, P. D. & Co., represents the bismuth equivalent of 5 grains of the subnitrate.

An Improved Hydrated Magnesia.—An agent which undoubtedly deserves to be more widely employed than it is at present is magnesium oxide. While long held in high professional favor, many physicians in the past have refrained from prescribing it because of the many faulty preparations which found their way upon the market. Practitioners who have felt this restraint would do well to make a test of Milk of Magnesia, P. D. & Co., an improved hydrated magnesia which lacks the objectionable features of many similar preparations and which may be depended upon for uniform and certain results.

Milk of Magnesia, P. D. & Co., is a purely aqueous mixture, concentrated and active, each fluidounce representing about thirty-two grains of magnesium hydrate. It does not contain sodium sulphate. It is entirely stable under ordinary conditions, remaining unchanged indefinitely. The product is valuable as an antacid and gentle laxative in dyspepsia, sick-headache, gout and other complaints attended with hyperacidity and constipation; in diarrhea due to intestinal fermentation; in gastric disorders peculiar to children in which acidity of the primae viae is often a prominent feature; and whenever gastric irritability and deranged function are present, as evidenced by nausea, gastralgia, eructation, pyrosis and other manifestations of hyperacidity. It is pleasant to take, being readily accepted by children and persons of fastidious taste.

The Suprarenal Situation.—The United States Circuit Court upholds product patent on the natural active principle.—When Vulpian, a French chemist in 1856 reported that the suprarenal glands of mammals contained a peculiar substance giving certain color reactions with ferric chloride, iodine, and

alkalies, and quickly changing in contact with the air and on exposure to light, little might anyone have expected that fifty-five years later this peculiar substance would be the subject of a product patent.

In 1904 the H. K. Mulford Company placed upon the market Adrin, its brand of Epinephrine, the active principle of the adrenal gland, believing that the pioneer work done by von Furth and Abel justified it in doing so,—and that a product patent on the active principle existing in nature could not possibly be upheld, particularly in view of the fact that its existence had been recognized for fifty years; that nearly all of its chemical reactions and properties were previously known and described; that its chemical nature had been accurately predicted; that its medicinal virtues had been discovered and put into practical use; and that it had been actually isolated in various degrees of purity in the form of a benzoylated derivative and in the form of a zinc and an iron compound.

The H. K. Mulford Company regarded its product as a substantially different product obtained by a substantially different process, from those specified in the Takamine patent and did not believe that the latter could—if held valid at all—be construed to cover and include the Mulford product.

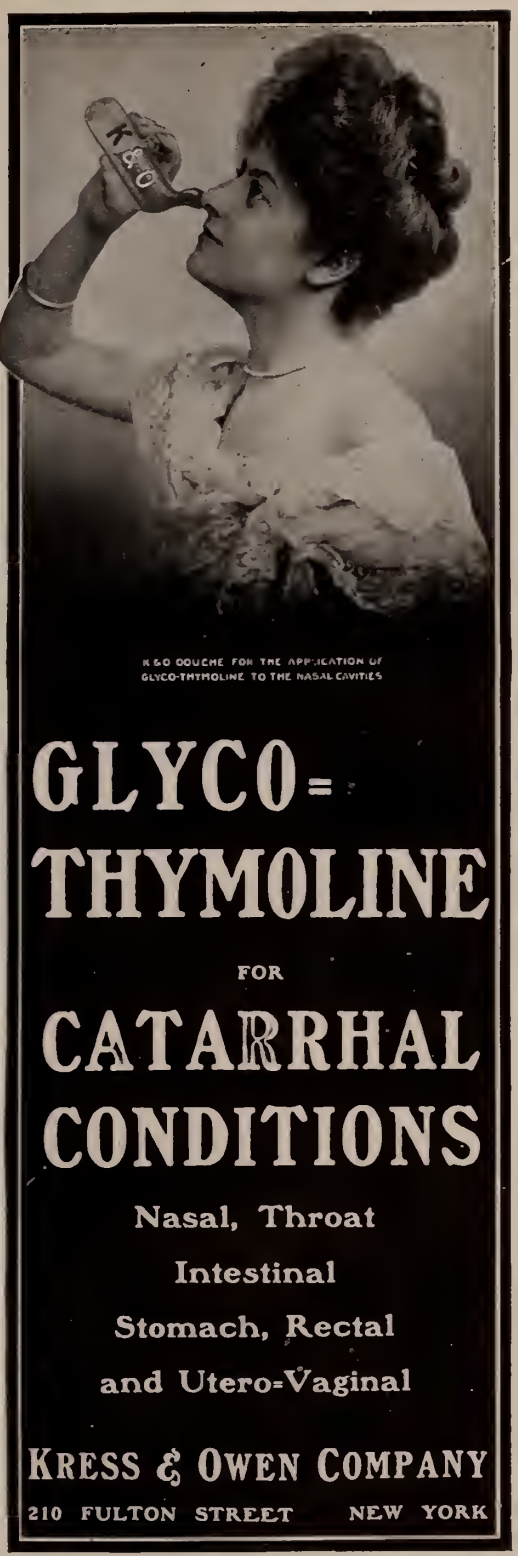
Moreover, the H. K. Mulford Company, recognizing that the first object of the patent law is to "promote progress in the Sciences and Arts" believed and still believes that the granting of *Product Patents* on medicinal substances, whether or not they exist pre-formed in nature, are a hindrance to, rather than a means of promoting progress in the practice of medicine, and used their efforts to defeat a product patent which it deemed to be not only contrary to the object and spirit of the patent law but contrary to the best interests of Pharmacologic Practice in the United States.

On April 29, 1911, Judge Hand, in the United States Circuit Court for the Southern District of New York, handed down a decision sustaining certain of the patent claims of Dr. Takamine and declaring H. K. Mulford Company products to infringe these claims.

The H. K. Mulford Company wishes to call attention to the fact that in defending these suits it has consistently and at great cost endeavored to uphold its antagonistic position toward the product patent for medicinal substances, believing that product patents on all substances used in medicine, work an injustice on the medical and pharmaceutical professions and are inimical to the public good.

The court having decided that the manufacture of Adrin, the Mulford brand of epinephrine (the active principle of the adrenal glands) conflicts with the product patents granted to Takamine, the H. K. Mulford Company will discontinue its manufacture in the form of solution, tablets and hypodermics, until their appeal is decided in the higher court. Other preparations which have contained the Adrin brand of epinephrine will be prepared with an amount of purified extract of adrenals equivalent to the active principle contained in the glands.

THE BUGBEAR OF "INDIGESTION."—"It is often said that ours is 'a nation of dyspeptics.' Medical men appreciate how apt this statement is, and never was there a time when it was more true. Only yester-



day one of them remarked, with a touch of humor, that 'people are living so fast today that they do not stop to masticate their food'—a wise observation, we must admit.

"And besides—in the matter of eating have we not as a race departed from the so-termed simple life? Have we not in more than one way become denatured rather than civilized? It seems that the things people eat today are censored to tickle the palate, rather than nourish and upbuild the body, —and the consequence of such pleasurable and improper eating is a disordered stomach."—*From Brochure on Taka-Diastase.*

One is tempted to quote further from this booklet, so interesting is the story—in subject-matter and in the manner of its telling. To do so, though, were to defeat the present writer's object, which is to insure a wider audience for the booklet itself—a booklet which is well worth having, whether or not one expects to avail itself of its therapeutic suggestions.

As the quoted paragraph attests, the brochure is well written. Its literary flavor, however, is but half its charm. In its physical make-up the booklet is a distinct novelty, its quaint cover design, its fitting inner embellishments, and its oriental suggestiveness lifting it well out of the casual and commonplace.

The brochure tells how Taka-Diastase came to be —tells how it is made, and in the language of the distinguished chemist and scientist who evolved and gave to the world this valuable ferment. It explains, in attractive, readable form, how Taka-Diastase acts in defective starch-digestion, in gastritis, in diarrhea and constipation, in wasting diseases, and in the diet of infants. It contains a full list of Taka-Diastase products and gives hints as to dosage. Altogether it is an important little work, and one that readers of the VERMONT MEDICAL MONTHLY are advised to send for. A copy may be obtained by any physician by addressing a request for the "Taka-Diastase Brochure" to the publishers, Parke, Davis & Co., at their home offices in Detroit—providing, of course, the edition has not previously been exhausted.

TUBERCULAR ADENITIS.—Glandular tuberculosis presents a problem to the clinician not easy of solution, for its management involves not alone the application of drugs, but also the selection of proper diet and the ordering of and obedience to a hygienic regime which may be extremely difficult of regular enforcement. Next to fresh air and sunshine, an abundance of nutritious food, cod liver oil offers the largest measure of success and is a necessary adjunct to the foregoing measures. Since the majority of these patients are children of tender years, great care in the choice of the cod liver oil product must be exercised if the physician would derive from it the fullest remedial benefits.

The essentials of a cod liver oil preparation are effectiveness and palatability, and these qualities are surely found in Hagee's Cordial of the Extract of Cod Liver Oil Compound. For these reasons Cord. Ext. Ol. Morrhuae Comp. (Hagee) is especially indicated in scrofulous conditions, and will prove to be the physician's most dependable selection from materia medica. It may be continued for indefinite periods.

THE TREATMENT OF NERVOUS DISORDERS.—Valuable as are rest and dietetic regulation in the treatment of nervous disorders, it is generally recognized that effective tonics are always necessary. For instance, in chorea and the restorative stage of poliomyelitis, it is often surprising to note the remarkable impetus given to convalescence by the use of Gray's Glycerine Tonic Comp. Its administration promptly stimulates the appetite, aids digestion, and so improves the whole nutrition that recovery is substantially furthered and hastened. The same thing holds true in neurasthenia, and the benefit that almost always follows the use of this remedy is invariably as gratifying to the practitioner as it is to the patient.

THE MANAGEMENT OF CONVALESCENCE.—The systematic use of Gray's Glycerine Tonic Comp. following pneumonia, acute bronchitis, La Grippe, typhoid fever, the exanthemata and other acute affections, gives such material aid to the restorative and recuperative processes of the body that the convalescent period is not only greatly shortened, but it is freed from practically all of its danger and uncertainty. Normal physiologic activity of all vital functions is promptly established and with these working in harmony recovery from an acute disease is usually perfect and complete. Gray's Glycerine Tonic Comp. by reason therefore of its proven value as a restorative is probably more often used for promoting convalescence than any other remedy. Its certainty of action, the positive benefits produced, and its freedom from any unpleasant effect no matter how weakened the patient may be, leave little reason for questioning the preference now so generally shown this dependable remedy. That it serves a purpose in convalescence so far reaching and important, and serves it so well, is all the justification needed for its invariable use just as soon as the fury of a pathological storm has passed and the reconstructive or convalescent period begins.

A VALUABLE TONIC IN CHILDHOOD.—It is a fact that cannot fail to interest the practitioner that one of the most useful and valuable remedies in childhood is Gray's Glycerine Tonic Comp. The reason for this is quickly found in its palatability, freedom from contra-indications and pronounced efficacy in the diseases common to childhood. Even the littlest children will take Gray's Glycerine Tonic Comp. without objection and no matter how run down and debilitated a child may be, this eligible remedy can be freely administered with no other than the most beneficial effect on the stomach and other digestive organs.

While broadly indicated in all forms of malnutrition and inanition it is in convalescence from measles, scarlet fever, pneumonia, acute bronchitis and other affections that it accomplishes its most conspicuous benefits. Gray's Glycerine Tonic Comp. restores the appetite, stimulates digestion, promotes assimilation and quickly places the patient on the highway of health and bodily vigor. Finally, one of the great advantages of this exceedingly useful remedy is that it can always be relied upon to do all that cod liver oil can, with none of its objectionable or disagreeable features.

Anti-Meningitis Serum.

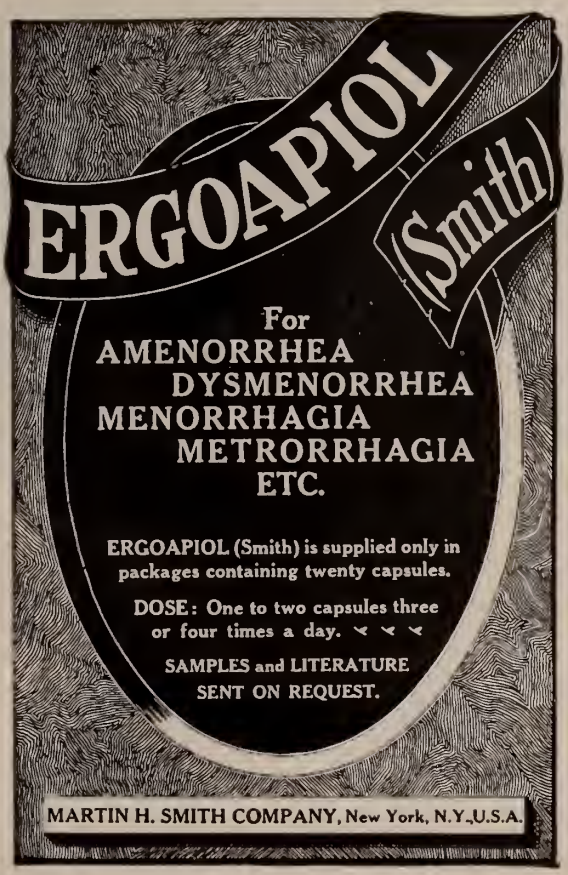
The Rockefeller Institute for Medical Research, in accordance with an announcement made last summer, now gives notice that it has discontinued the general distribution of anti-meningitis serum which it has undertaken without charge ever since the discovery of this remedy for cerebro-spinal meningitis. The effectiveness of this remedy in that form of meningitis which is caused by the diplococcus intracellularis (Weichselbaum) having been generally accepted by medical authorities throughout the world, it has seemed appropriate that The Rockefeller Institute should devote to other lines of investigation the funds hitherto needed for the gratuitous distribution of the serum, handing over to the public health authorities of municipalities and states, and to commercial establishments, the routine preparation of the serum for general use. The anti-meningitis serum will thus take its place with vaccine and diphtheria anti-toxin as an approved agency for the protection of public health.

The Board of Health of the City of New York is the first of American boards of health to undertake the regular production of anti-meningitis serum. It will provide for the free distribution of serum to all hospitals in the city, and, at the outset, to all physicians who apply for it. Later the gratuitous distribution other than to hospitals will be limited to those cases in which the physician certifies to the hardship that would be caused by a money charge. All others will be required to pay for the serum at a price covering its estimated cost. Pending the production of the serum in other localities, the New York Board of Health will, as a matter of humanity, supply such urgent requests as may come to it from outside the state, but this provision will probably be necessary for only a short time. Within the City of New York the Board of Health will designate a few stations where serum will be kept on hand.

The serum is administered by being injected into the spinal canal by means of lumbar puncture, an operation which is also required to secure the fluid for bacteriological diagnosis; and several separate injections of the serum are required in treating a given case. The effective employment of the serum is likely, therefore, to be restricted on account of the experience and skill required in its administration and the high cost of the commercial product, unless the preparation, distribution, and, when necessary, administration, are undertaken by state and municipal authorities.

February 13, 1911.

Jerome D. Greene,
General Manager.
Sixty-sixth Street and Avenue A,
New York City.



Nine physicians of Cleveland have been summoned to appear before the health board to explain their failure to report cases of communicable diseases. In most instances, the disease not reported was pneumonia.

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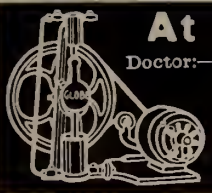
The National Government has recently published an interesting document entitled "National Vitality, Its Waste and Conservation." It is the report of the "Committee of One Hundred on National Health," by Professor Irwin Fisher of Yale. It is here shown that wherever sanitary science and preventive medicine are applied, the health of the community is improving and the average length of life is growing greater. The average of life, e. g., in Massachusetts, is placed at forty-five years, while in India it is less than twenty-five years. In Europe it has doubled during the last two hundred and fifty years. In Germany, where so much is being done in the way of hygiene and prevention, the average is increasing at the rate of fourteen years per century, while in Oriental countries it is practically at a standstill. With us 600,000 a year die from preventable diseases. Tuberculosis is here included, of which it is stated that three-fourths might have been cured if they had known how to fight it. It is, indeed, advisable that such a report should have wide circulation. It can be obtained from any Congressman or United States Senator. The public should be educated to understand that there is no greater asset to a nation than the good health and efficiency of its people, and should be brought to welcome any measures which may be introduced for its conservation.—

Post Graduate.

The case of Job has been variously diagnosticated as syphilis, white leprosy, a combination of these, and a special infliction of the Almighty, not admitting of scientific classification. The symptoms, however, bearing in mind that they were recorded of some individual by a writer without scientific training, are exactly those of scurvy with its gingivitis, deep seated pains, foul—because improperly treated—wounds, and procidentia ani. The quick recovery is also characteristic of scurvy, which yields promptly to fresh food, especially the fruits and vegetables containing the potassium salts, and to malic and citric acids. The terrible mental depression of the disease is not in the least exaggerated by the writer, for the heart's action is irregular and depressed, and there is a great lack of hydrochloric acid in the gastric juice.—*N. Y. Med. Jour.*

THE HAIR OF THE DEAD FROM PLAGUE.

It was recently reported from St. Petersburg that German agents in Manchuria were shipping quantities of the hair of plague victims to Europe; and that bodies of the dead found in the streets were invariably without queues, which were cut off to supply the market for false hair. It is asserted that the British Local Government Board would not interfere with the importation of such hair into the United Kingdom, believing that the germs of the plague can be conveyed only by living persons.



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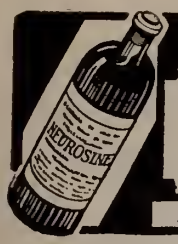
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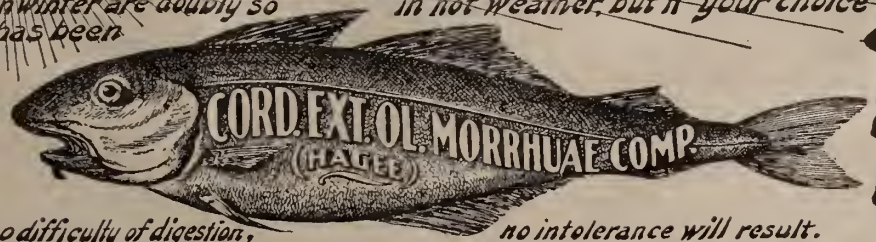
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ANTITOXIN.—S. E. Earp, in the *Indianapolis Medical Journal* for March believes that there are many who will agree that diphtheria antitoxin should not be used as a prophylactic with the same freedom as in a case of diphtheria. The conditions are not the same, and to give a healthy child a powerful remedy when there is no evidence of disease, to say the least, makes a practitioner think twice before acting. This does not imply that preventive medicine should not always be given important consideration nor does it mean that diphtheria antitoxin is the best remedial agent in diphtheria, but it does mean that much caution should be observed. If the children of a household, where a case of diphtheria exists, are carefully watched by a physician and upon the first indication or suspicion of diphtheria the antitoxin is given, this would seem to be a reasonable course. It is often used indiscriminately with no apparent thought of danger, and he believes such a course to be wrong. E. W. Goodall in the *British Medical Journal* sounds a warning, and the *New York Medical Journal* says "Goodall is averse to using diphtheria antitoxin as a prophylactic." Not only might it happen, he remarks, that the person treated was peculiarly susceptible to the action of the serum, even if he was not known to be asthmatic, but supposing that he was not naturally susceptible, it would not be unlikely that by the injection he would be rendered artificially so, in which case, if subsequently it was found necessary to use antitoxins remedially—a by no means unlikely event in these days of sera and vaccines—he would run the risk of undergoing a very unpleasant illness. There are some instances of outbreaks of diphtheria institutions for the care of children, in which the use of antitoxin as a prophylactic may be justified. But he is strongly of the opinion that the indiscriminate use of serum as a prophylactic is not only unnecessary but unjustifiable. In cases of undoubted diphtheria there is seldom necessity for hesitation as to the use of antitoxin. If we are called upon to treat an asthmatic who has been unfortunate enough to contract diphtheria, we will have to choose between two evils. If the attack of diphtheria is severe, and especially if the larynx is involved, we are compelled to risk supersensitiveness. For happily it is not every asthmatic who is supersensitive.—*The Cleveland Medical Journal,* April, 1911.

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are so frequently met with and are so insistent in their demands for treatment, that practically every physician has delved deeply into therapeutics hoping to find some agent that would modify the attacks and render them less frequent, if nothing else. The bromides have been extensively used and often times with success, yet they possess many features that are unpleasant.

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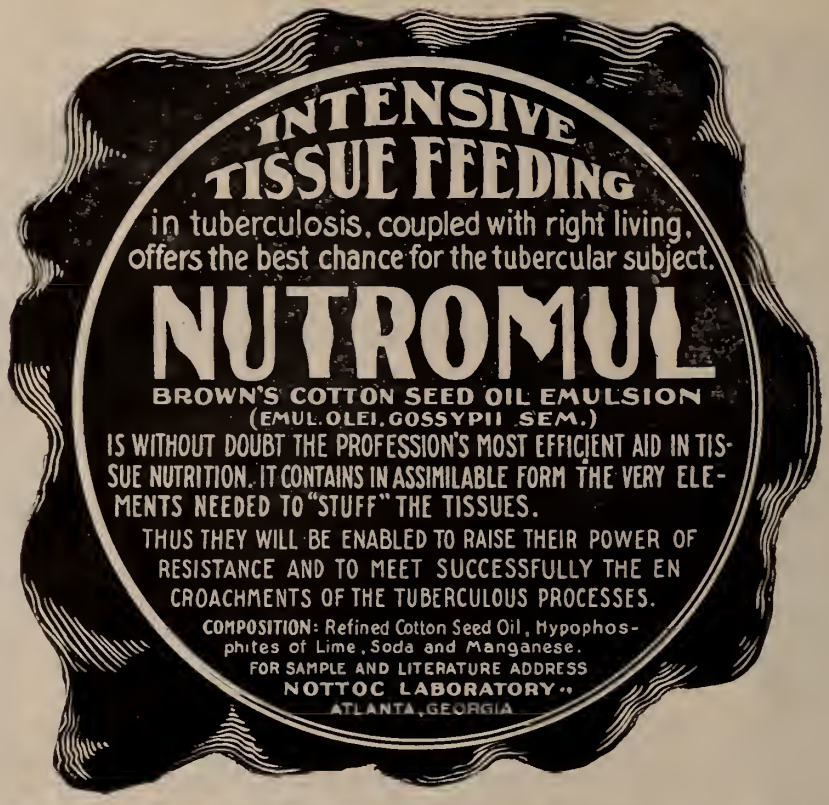
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Pituitary Gland in Uterine Hemorrhage. —Foges and Hofstätter (*Zentr. f. Gynäk.*, Nov. 12, 1910) report from Wertheim's clinic upon the results from the use of extract of pituitary body in postpartum and other uterine hemorrhage. After detailing the experiments of Frölich upon rabbits which showed that there was with pituitary extract a marked contraction of the uterine musculature depending upon the motor nerves of the uterus and having nothing to do with the blood pressure.

The injection of the pituitary extract was made in the amount of ½ c. cm. in 20 c. cm. of salt solution directly into the deep muscles of the gluteal region. The pain was slight and there was little local reaction. Altogether 63 cases of bleeding were treated, including 13 cases of post-abortive bleeding. Good results were obtained. In an atonic uterus with retained placenta, a single injection was usually sufficient to stimulate the uterus so that slight massage caused a contraction. The condition of the heart improved at the same time. There was a failure in only one case of post-abortive hemorrhage in which 30 minutes were lost trying the elastic belt of Momberg. The pituitrin was also used in several cases of vaginal Caesarean section and, by its use in contracting the uterus, the amount of blood lost was reduced to a minimum. They advise against the intravenous method and say that given by the mouth, it is worthless; but, with intramuscular injection, the condition of marked uterine contraction appears within 5 minutes and lasts through a long period in most cases.—*Med. Review of Reviews.*

Doctor's Average Annual Income.

The New York *Herald* some time ago placed the average annual income of the profession at $1,250. There have been lower estimates than this even, but the figure named is conservative. This seems a most inadequate return for ten years of preparation, an outlay of from $7,500 to $10,000 before the student arrives at the age of earning capacity.—*N. Y. State Jr. of Med.*

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Vermont Medical Monthly.

VOL. XVII. JULY 15, 1911. NUMBER 7.

ORIGINAL ARTICLES.

THE USE OF SALVARSAN IN THE TREATMENT OF SYPHILIS.*

BY

C. B. KEENAN, M. D., D. S. O.,

Assistant Surgeon, Royal Victoria Hospital, Montreal; Lecturer in Surgery, McGill University.

Ehrlich on June 9, 1908, at a Congress of German dermatologists held in Frankfort brought forward as a very efficient remedy for syphilis the arsenical preparation now known as "606." He pointed out how commencing with atoxyl that had been proved by Uhlenhuth to be of benefit in the treatment of lues he aimed by chemical variation of this to produce a remedy which by a single dose would destroy all the trypansomes in the body without injury to the host. His chief helpers in this work were the chemist Bertheim and his assistant Hata and their combined labor resulted in the present remedy which has the chemical name of Dioxydiamidoarsenobenzol.

After this remedy had been tested on rats and mice infected by trypansomes it was employed in the treatment of human syphilis with so favorable a result in each case that its use has become almost general.

As the original chemical compound was very unstable (becoming rapidly oxidized on exposure to air) it was put on the market as a chloride and it comes as a light yellow powder in sealed glass tubes whose apparently empty portion contains an inert gas. Any alteration in the color of the powder shows it to be unfit for use. This drug since its inception has been slightly modified by Ehrlich so that the late preparations are less toxic but possibly less effectual than the original.

This remedy can be administered either intramuscularly, intravenously or subcutaneously, but the two former methods are the ones of which I have personal experience.

For the intramuscular method the drug has been prepared for me by Dr. Bruyere in the following manner, needless to say with the strictest aseptic precautions. The powder shaken into a sterile mortar is dissolved in about fifteen cubic centimeters of almost boiling distilled water and then 2 c. c. of normal sodium hydrate solution is added, producing a thin jelly-like mass which is thoroughly well rubbed up. Then two more c. c. of the sodium solution is added which usually transforms the mass into a clear fluid with possibly a few small flocculi. If the fluid has not become clear a little more of the sodium solution is now added drop by drop, the fluid being well stirred at the same time till the desired effect is reached. The total amount is now brought up to 20 c. c. by the addition of distilled water. Now with as little delay as possible the solution is slowly injected deeply into the glutal muscles, half going into each buttock, with, of course, the usual aseptic precautions. The needle should be inserted first and if there is any outflow of blood indicating that the point lies in a vein the position of the needle should be changed so that the blood ceases and then the syringe is attached and the fluid slowly injected.

This solution is neutral or slightly alkaline, and using 6 grms. of Salvarsan I have employed it in the following cases.

Case 1.—Male aged twenty-four years had syphilis for six months and during the last three he has taken mercury by mouth but numerous mucous patches persisted. Spirochete pallida were present and there was a positive Wasserman reaction. He was injected on May 6, 1911, and left the hospital on the next day having only very slight pain. He commenced his usual office work a day later and continued without any marked pain or any elevation of temperature. When last seen on May 14th all his mucous patches were completely healed, although his lymphatic glands were still large and tender.

Case 2.—Male aged twenty-six had syphilis for four years during which he had mercury both by mouth and by inunctions, but at present he has deep fissure-like ulcers on his tongue and shallow ulcers at the angles of the mouth. Spirochete pallida are present and the Wasserman reaction is positive. He was injected on Feb. 25th, 1911, when he rested for a day in bed, complaining of only slight pain. Two days after

*Read before the Franklin County Medical Society, St. Albans, Vt., May 25, 1911.

receiving the injection he resumed his usual work as a sleeping car porter and when seen one month later all the ulcers were completely healed.

Case 3.—Male aged 30. This patient has had syphilis for only nine weeks and at present has numerous mucous patches, enlarged lymphatic glands, and a general erythematous rash. His primary chancre was healed, and Spirochete pallida were present and the Wasserman reaction was positive. On Jan. 20th, the patient received the usual injection, and this was followed by considerable pain felt down along the back of the thighs and a slight elevation of temperature for two days. Five days after the injection a very extensive papular rash developed over the body, some of the papules being almost one-half inch in diameter and at the same time all the palpable lymphatic glands became very swollen and tender. (This development of a marked papular or macular rash following the administration of the drug is known as the Jarish-Herxheimer reaction and is an indication, according to Ehrlich, that the dose was too small and that, therefore, the spirochetes were not killed but only irritated.) At the same time a deep ulcer appeared at the site of the primary chancre. In two days this rash commenced to disappear and all the lesions to heal and one month after the injection swollen and tender lymphatic glands were the only perceptible syphilitic lesions remaining.

Case 4.—Male aged twenty-three. He has had syphilis for fifteen months and during this time he had mercury by mouth, by inunction, and by injection. The only lesion remaining was a minute papular syphilide that was widely distributed over the body. No spirochete pallida could be found, but the Wasserman reaction was still positive. He received the injection on Jan. 27 and this was followed by moderate pain down the thighs and in the buttocks, which lasted for one week, when the rash also commenced to disappear, becoming completely absent twenty-four days after the injection.

Case 5.—Male aged 22. This patient had had syphilis for two years, during which he had been under anti-syphilitic treatment, but superficial ulcers had always been present on his tongue. Spirochete pallida could not be found, but the Wasserman reaction was positive. He received the injection on Jan. 21, and this was followed by severe pain in the buttocks and cramp-like sensations down the legs. Morphia was required for two days. One week after the injection there was only slight pain, the patient attended a wedding, where he danced a good deal. The next day the patient felt feverish and restless and his temperature rose to 104 F. He did not complain of any pain, his urine was normal save for a trace of arsenic, and all his organs so far as could be made out were healthy. On being kept in bed the temperature fell rapidly, reaching the normal inside three days. Two weeks after the injection he reported to me feeling quite well and with all the ulcers completely healed.

Case 6.—Male aged 26. This patient has had syphilis for one year, and although he has been under treatment, mucous patches have been constantly present in his mouth. Spirochete pallida are present and the Wasserman reaction is positive. He received the injection on Jan. 26, and this caused considerable pain in the buttocks and down the back of the thighs for nearly two weeks but during this time all the lesions completely healed.

Case 7.—Male aged 21. This patient had his initial sore on the buttock in Dec., 1909; in Feb., 1910, he showed an early syphilitic rash with numerous mucous patches on mouth and at anus. Spirochete pallida were now demonstrated and the patient was treated energetically with mercury, and although the mucous patches in the mouth and the rash disappeared the ulceration around the anus became gradually deeper and more extensive. These anal ulcers were very painful and gave rise to considerable bleeding. The condition of the patient on entering the hospital was not good, as he was very pale and thin and the urine showed a trace of albumen and numerous finely granular and hyaline casts suggesting a chronic nephritis. On Dec. 19th, 1910, he received the usual dose of Salvarsan, and this was immediately followed by severe pain in the buttocks and down the back of the thighs and the temperature rose in twenty-four hours to 102 F. Both the fever and pain persisted for two weeks, during which the patient required morphia almost constantly. But the rectal ulceration rapidly healed, becoming completely well during the third week after the injection, the urine also becoming free from albumen and casts. In this case the Wasserman reaction became negative on the third day after the injection and has remained so to the present time. (This is the only one of all my cases where the Wasserman reaction up to date has become permanently negative.)

Case 8.—Male aged 23. This patient had syphilis for one year, during which in spite of careful treatment ulcers had persisted on the tongue. During this period also the patient had a chronic endocarditis and nephritis which had resulted from an attack of acute rheumatism of two years previous. The Wasserman reaction was still positive. He received the injection on Feb. 13, 1911, and following this he had urinary retention for one day and moderate pain in the buttocks for one week. The ulcers on the tongue rapidly healed and the urine showed less albumen and fewer casts. The Wasserman reaction still remained positive so the patient three weeks later had a second dose of Salvarsan administered intravenously without any injury to his heart or kidneys.

Case 9.—Male aged 25. This patient had a primary chancre in the meatus in Dec., 1910, which showed numerous spirochete pallida and therefore the patient was immediately put on the usual mercurial treatment, but in March, 1911, numerous mucous patches developed in the mouth and at the anus. On May 15, the patient received the usual injection, which did not cause sufficient pain to require morphia. The mucous patches healed in one week and the primary chancre is rapidly becoming better.

Case 10.—Male aged 32. This patient has had syphilis for twelve years, during which he was under careful mercurial treatment, but he has always been subject to outbreaks of a syphilitic dermatitis and he has also had a glossitis that became very severe whenever he stopped taking mercury. Besides mercury this patient had taken arsenic in various forms, but without any noticeable benefit. The Wasserman reaction was positive.

He received the usual injection on Dec. 12, 1910, and this caused moderately severe pain, but the dermatitis rapidly improved to complete cure and the tongue came down to normal size and consistency. The Wasserman reaction, however, has remained positive.

Case 11.—Male aged 45. This patient has had syphilis for twenty-five years, and all this time was under careful medical treatment. For the past twelve years he has had symptoms of cerebral lues such as headache, a feeling of weight or pressure over forehead, sleeplessness, and dizziness. He has had also during the same time an extensive syphilitic inflammation over the dorsum of the right forearm that involved the skin, the subcutaneous tissue, and the ulna. The treatment with iodides and mercury produced at times a temporary improvement of all these lesions, but on the whole they were becoming gradually more severe. The Wasserman reaction was still positive. On Jan. 31, the usual injection was given and this was followed by slight local pain and moderately severe headache for four days. The arm lesion commenced almost immediately to improve, and at this date is completely well. The nervous symptoms while undoubtedly benefited are still present and the Wasserman reaction remains positive.

Case 12.—Female aged 21. No history of secondaries or of infection could be obtained here so it is probably a case of congenital lues. In 1908 this patient suffered from deep ulceration of the pharynx, which was considered tubercular. In 1909 she became insane for three months and in the spring of 1910 the nasal bones commenced to necrose. The Wasserman reaction was now taken and proved positive. Under local treatment and iodides internally the nasal condition improved and on Feb. 21, the usual dose of Salvarsan was injected. No special after effects were noted and the nasal condition remained the same while the Wasserman reaction still remained positive.

Dr. Burnett, who has charge of the skin clinic at the Royal Victoria Hospital, has also treated in a similar manner two cases of secondary syphilis with a rapid cure of all the lesions in both instances.

For administration by the intravenous method Dr. Bruyere prepares the solution as previously described but uses smaller amounts of the Salvarsan, that is, 3 grms. for a woman, and 4 for a man. After the clear solution is produced it is brought up to 250 c. c. by the addition of sterile saline at blood heat. Care must be taken that this last solution is made with chemically pure sodium chloride. Then this solution is allowed to flow slowly into a vein. The vein may be exposed and a canula inserted or it may be punctured through the skin with a hollow needle and in either case it is well to let a little normal saline flow in first and also to finish in the same way.

In all at the Royal Victoria Hospital ten cases have had Salvarsan by the intravenous method and save for slight mental excitement and a slight elevation of the temperature following the administration there have been no untoward symptoms. There was complete freedom from

pain, and as with the intramuscular method, there has been rapid and complete cure of the secondary lesions when present. Many of these cases had syphilitic disease of the nervous system and here the beneficial results have not yet been apparent, but in no case has the patient suffered any injury from the drug.

There are many other methods of preparing Salvarsan for administration, such as a neutral suspension (Wechselman), an emulsion in liquid paraffine (Kroymayer), but the alkaline solution above described is the one most favored by Ehrlich.

Ehrlich now strongly recommends the intravenous method of administration and uses from 3 grms. to 8 grms. for healthy adults. He repeats this dose if necessary in three weeks and may even repeat it again in another three weeks. In congenital lues the amount given is usually the one-thousandth of the body weight.

If the primary chancre is not healed at the time of the administration of the Salvarsan it should be excised or thoroughly cauterized, as it is here that the infection is liable to persist.

In para-syphilitic lesions a beneficial effect from the drug has yet to be proved.

In congenital syphilis in children there is usually a marked improvement for a few days following the use of the drug, but in about a week there is a fresh outbreak of the syphilitic lesions and the child rapidly dies. Ehrlich thinks that the death in these cases is due to rapid pouring out of the endo-toxines of the dying spirochetes. The milk from the mother treated with Salvarsan rapidly heals the syphilic lesions in the suckling infant and since the amount of arsenic in the milk is extremely small Ehrlich thinks that the mother must produce an antibody which is excreted in the milk so curing the child.

In none of the cases cited above has there been recurrences up to date, but probably some will show up later, as statistics show that roughly one out of every twenty recurs.

Following the administration of "606" the Wasserman reaction may be at times positive and again negative, but in thirty to sixty days if the case is cured it becomes permanently negative and Ehrlich uses this to guide his treatment. He states that if the Wasserman reaction remains positive three months after the use of Salvarsan the dose should be repeated, if possible using a larger amount. The stated contraindications to the use of "606" are severe disease of the eye not luetic in origin. Although the general opinion is favorable to the treatment of Syphilis by "606," yet undoubtedly in a few cases its administration has been followed by death or by retinitis.

HYSTERIA.

BY

FREDERIC W. SEARS.

The excuse for this very elementary paper is that there seems to be among the great body of practitioners a misconception as to the seriousness of hysteria. The insane patient awakens a feeling of pity, but to us doctors the hysteric is too often an object of ridicule or contempt. If in a clinical lecture a diagnosis of hysteria be made, you will observe if you watch closely, a look of amusement pass over the faces of the students. This is wrong. The hysteric should stir in us a feeling of pity even more that the insane, for these patients are much more fully conscious of their condition, so if by this simple article which contains nothing new, I can induce you to view with more leniency these unfortunates and can convince you of the importance of treating them with greater care and greater tenderness, I shall have accomplished my object.

In starting out we are confronted by a threefold difficulty. Firstly, we can not define hysteria. We may recognize it when we see it, but to put into words any adequate definition is well nigh impossible. Secondly, we cannot, especially in a short paper, attempt to describe it, for so ever-changing is its form that the effort would carry us over the whole field of medicine. Thirdly, there is no recognizable pathology.

So we must plunge in medias res and try to get a working theory whereby the symptoms of the patient may become more or less intelligible. Psychologists teach us that every sensation has its concomitant motion and also recalls some preceding sensation. The mind is made up of these multiplied sensations and associations. It soon learns to suppress or inhibit most of the concomitant motions and associations and to select from them those that seem by experience to be most suitable, and so our movements become purposive and our thoughts are controlled and become reasonable. Now there is a great difference in families and individuals in acquiring this power of inhibition or self control, and when

a person has a weakened nervous system from whatever cause or comes from a neurotic family it is easy to understand that some great emotion or excitement, whether grief or joy, fatigue or illness, or sexual excitement, may weaken this power of inhibition and so we come to the first great feature of hysteria, weakness or deficiency of inhibition.

Let us take a rough and imperfect simile and consider the brain as a large forest crossed and recrossed by innumerable wood roads over which the individual consciousness is driving a pair of horses. The skilful driver selects his route, turning to right or left at will, taking notice of passing objects and of the cross roads of association, glancing down them perhaps but taking only those that suit his purpose. But how about the driver who either through bad training or weakness or some other cause loses partial control of his team? No longer do they go steadily, but startled or attracted by some object take another road and the driver no more goes the route he purposed; and this brings us to the second feature of hystericals—suggestibility—now the horses increase their speed, the driver becomes alarmed and fears the outcome, he notices not the cross roads of association and the passing objects; in other words, his field of consciousness is contracted and he has morbid fears and feels as if something were going to happen to him. With increasing speed the horses sweep into the path of some great emotion and follow it round and round, and this is dissociation. This dissociation may be more or less complete. At any time the driver may gain control of his horses and drive them back to the original roads, or some other mind may take them by the bridle and lead them whither it will—this is hypnotism—but always when they come to the same place the horses are liable again to take the bit in their teeth and follow again the same emotional road. As we have found that deficiency of inhibition in the association tracts leads to suggestibility with usually susceptibility to hypnotism, morbid fears, retracted field of personal consciousness, and more or less complete dissociation, so also in the motor areas it conduces either to increase activity as the motor agitations of tics choreas and contractures or decreased activity as in the functional paralyses. Following out this working theory of the disease let us consider some of the symptoms. An idea presented to a suggestible person with weakened inhibition runs riot and stirs up the emotions so we find that these patients laugh and cry without seeming cause. Their ideas being uncontrolled become real to them. The idea of difficulty of swallowing produces actual dysphagia, the idea of an injury produces real pain or the idea of vomiting produces vomiting.

Many physicians accept the fact of the vomiting and dysphagia but hesitate in making a diagnosis of hysterical pain or else try to convince the patient that it is imaginary when it is as real to the sufferer as the vomiting.

The simplest form of dissociation is somnambulism. Take for example the case described by Janet, a man with hysteric paraplegia gets out of bed hugging his pillow which he talks to as a child whom he thinks he is rescuing from his mother-in-law, he climbs out upon the roof and runs about with ease but when caught he is stupified and again becomes paralyzed. The horses have run the circle of the old emotion and are again brought back to the more normal path, and the patient remembers nothing of his excursion. In the more complex form of dissociation a man under stress of some grief or accusation may leave his home and disappear for weeks or months, his past life forgotten, when suddenly some old association like seeing a familiar face or hearing the name of an old friend, he comes back to his normal self and then strange to say he has utterly forgotten the period of his rambling and wonders where he is. He has lost a piece out of his life which can sometimes he recalled by hypnotism and as it were patched into the whole fabric.

Similar to these are the famous cases of double personality of Dr. Morton Prince where the patient goes from one personality to another until it may be difficult to tell which is the normal and which the abnormal individual. Pushing our theory still further we may consider that hysterical convulsions are dissociations, for oftentimes in these the patient is going over some sexual experience as may be shown by hypnotization, or is rehearsing some great fear as in the case of Mrs. X over whose face would come an expression of extreme fear, then she would put up her hands as if to push some one away, scream and fall to the floor in a violent convulsion. Under hypnotism I was able to get more insight into the case. She called a name and said, "go away do not kill me." On being questioned in her normal state she admitted that

she had a husband in prison who had threatened to kill her when he got out and that she was longing to see him although afraid that he would carry out his threat. These convulsions of which her friends had told her she had not connected in any way with this fear or this longing but came for treatment for epilepsy. In this connection there is another quite different class of cases where the patients sleep for a longer or shorter period.

Take the case of Miss R., a domestic, 18 years of age whose mistress lay dying. This girl was found lying on the floor with her hands crossed upon her breast, apparently asleep. She was somewhat cataleptic, her eyelids fluttered and pupils reacted to light, she was almost pulseless but the heart sounds could be heard with a stethoscope. The condition of her mistress had so strongly impressed the idea of death upon her mind that she was acting it out, she continued in this state for three days during which time her mistress died and was buried. Unfortunately I was personally unable to follow this case as I was dismissed the second day because of dissatisfaction with my diagnosis.

All these cases are not mimetic. In some the patients seem to be so overwhelmed by an emotional idea that they are deprived of both speech and action as a child suddenly frightened by an automobile stands as it were frozen in the middle of the road without uttering a cry or making a motion. This state is the trance.

Many other varieties of hysterical manifestations may be worked out upon this theory of dissociation. The anesthesias, in which the patient is not conscious of the sensations coming from certain parts of the body. The majority of marked cases of hysteria have some anesthetic area.

Allied to the anesthesias are the anorexias, where we usually have loss of the feeling of hunger often associated with loss of taste and smell and sometimes with dysphagia and loss of desire to defecate, a dissociation of all the ideas connected with alimentation. Not uncommonly we have added the loss of sense of fatigue and these poor patients walk for miles upon the smallest amount of nourishment. The diagnosis of hysteria is sometimes easy and sometimes very difficult. The family history and the personal history of the patients together with their mode of life and general make-up, both physical and mental, are often aids.

By a careful physical examination assisted by laboratory methods we are able to eliminate most organic diseases. Especial attention must be paid to the nervous system. While hysteria may mimic almost every form of nervous disease the mimicry is not exact. Each symptom differs from the corresponding organic symptom in some slight though important particulars. For example a patient with an hysterical paralysis of a limb differs from the organic paralytic in the manner of using it, in the posture and if of a leg, in the gait and the reflexes, especially the plantar reflex, in the absence of clonus and various other manifestations of organic disease. So with anesthesias and other symptoms, all differ in some manner of anatomical distribution or peculiarity of function and a scientific physical examination will usually enable us to make a fairly sure diagnosis. There are some cases, more particularly where the hysteria is grafted as it were upon some organic disturbance in which a diagnosis may be difficult or well nigh impossible.

Of the psychoneuroses, psychasthenia is the most apt to be mistaken for hysteria but here instead of having a dissociation of a part of the consciousness we have the whole consciousness overwhelmed by an obsessive idea, e. g., in the anorexia of the psychasthenic the patient may have the idea that she will become fat (I use the feminine pronoun because the majority of these cases are females) and so will not eat enough to keep up her vitality but this case suffers intensely from the pangs of hunger for the sensation of hunger is not dissociated. If she is driven by the idea that she must take exercise she will walk until she is exhausted and overcome by the feeling of fatigue. The hysteric in similar case does not have the same sense of fatigue to the point of suffering from it although she may at times have a false fatigue.

Dementia precox in the earlier stages sometimes resembles hysteria but the negativism and rapid approach of cerebral symptoms soon clear up the diagnosis.

The treatment of hysteria offers many difficulties. Although the essential trouble is psychic there are many physical ailments that are contributing factors and an attempt must be made to remove these physical causes while we are treating the psychical state.

The bodily functions must be regulated, eye strain, gastric and intestinal disturbances, con-

stipation and menstrual irregularities must be corrected; so too the condition of the tonsils, the cardio vascular and genitourinary systems must be inquired into. Although the trend of modern authority is away from the sexual system as a cause of hysteria I am convinced that sexual indulgence, especially masturbation and sexual repressions and perversions are causative factors of very great importance. If the patient is debilitated she should be placed upon the Weir Mitchell treatment with the details of which we are all familiar, baths, massage, electricity and overfeeding which keep the patient more or less busy all the day and under which many hysterics make rapid improvement. The next object to be attained is the simplification of life. All sources of worry and mental strain are as far as possible to be removed, a quiet but not an empty life. While the social round of teas, bridge and late suppers is to be interdicted it is in most cases absolutely necessary that the patient should have some pleasant occupation for both mind and body.

Now let us turn our attention to the treatment of the mental condition. The first thing to be done is to gain the confidence of the patient, not to impress her with our skill as a diagnostician but to make her feel that she can trust her inmost thoughts to us without fear of misconstruction or ridicule and that we are in earnest in our desire to help her for her own sake. This can not be done at the first sitting and in some cases can never be accomplished.

Once her confidence is gained we can often get to the mental complex that is giving all the trouble and by conversation about it, by associating other ideas with it we can frequently stitch, so to speak, the dissociated complex back to the general consciousness. Sometimes by hypnotism we can open up these dark places that we can explore in no other way. Hypnotism is very useful in diagnosis of the exact mental condition but is many times of no avail in treatment, usually the effect is ephemeral. These patients are very suggestible and under hypnotism they can be best influenced by direct suggestion while in the waking state indirect suggestion is much more effectual. For example under hypnotism you might help the patient by saying: "Don't worry, your ills are imaginary and you will be well to-morrow," but in the waking state she would feel that you are asking an impossibility when you say, "Don't worry," that you are telling a deliberate lie when you tell her that her ills are imaginary and she would have no confidence in your statement as to the morrow. In other words you would entirely lose your hold on the patient.

Get out of your mind the idea that these patients are imagining things and that they could get well if they wanted to. Do you think for an instant that they want to go around with a paralyzed leg or a blind eye? Here is where the cruelty of the physician is shown in constantly asking or ordering the patient to do things which she is actually incapable of doing.

We must also try to reeducate the patient by various mental exercises thereby increasing her confidence in herself and helping her to a better mental and physical coordination and lastly we try to change her whole mental outlook on life, attacking her self consciousness, her false conception of her sphere in life, her attitude toward others, her cencentration on self, etc.

It is necessary to see the patient very frequently and go over the talks day after day; otherwise she may sag back into her former state.

Of course this form of treatment is only available when you can get the intelligent cooperation of the patient; in the less intelligent cases it will be better to resort to electricity, drugs and various other appliances for their mental effect.

The drug treatment of the symptoms in hysteria is similar to that of other diseases. Electricity may be used for the paralyses and anesthesias, asafetida, valerian or bromides for the nervous states and apomorphia for the acute spasmodic attacks and convulsions. Hysterical pain should not be treated with morphia except in very extreme cases and then should be given by the physician personally and not left to the nurse or friends. More morphine habitues have been made by the indiscriminate use of morphine in hysteria than in any other manner. Hysteria is an abnormal psychical state which more or less interferes with the bodily functions and should be treated by psychotherapy rather than drug therapy. The patient should be taught to depend upon the conscientious physician rather than to rely upon the mystical and supernatural as no Christian Science or emotional semi-religious suggestion as in the Emmanuel movement.

A HISTORY OF SYPHILIS.*

BY

C. S. SCOFIELD, A. M., M. D.,

Richford, Vt.

Mr. President and Gentlemen:

If I had known, when asked by our secretary to write a history of this disease "Syphilis" how much trouble it would cost me, I fear I should have declined his request, for in looking the subject up, I was surprised to find how little is said in our text-books regarding it. Many books on venereal diseases contain nothing at all, and only a few gave any history of syphilis whatever. Osler in his article on syphilis gives a short history of the disease, also Bumstead and a few others but they have only a few lines to a few pages at most to say in regard to it; even the Encyclopedias, the American Hand-Book of Sciences and many other books which treat of venereal diseases, have very little regarding the history of syphilis.

Hence when I first began the work by looking through my own library and after requesting aid from some of my medical brethren without avail, I felt discouraged about obtaining anything which would be of profit and interest to the members of this society.

The next thing that surprised me fully as much as the scarcity of history of this disease in our text-books, was to find that many writers, especially those of more recent date, claim that syphilis originated *in this country,* and that the sailors who were with Columbus when he discovered America, contracted the disease of the natives here and conveyed it to the old country where it broke out in sort of an epidemic in 1494—two years after the discovery of America. Hence, the name "American Disease" given to it at that time. Did it originate in America, is a question which should interest all Americans. Personally I have never looked up its history until the present time, but have always had the idea that syphilis was preeminently a disease of the Old World, and had spread from there to the early inhabitants here. The Indian I supposed was entirely free from syphilis until he became contaminated through the white man. I have been told by those whom I believe knew what they were taking about, that the Red Men were free from this disease until they began to mingle with the whites, and that the disease caused greater ravages among them than among the whites because unable to procure the proper medical treatment.

In looking this matter up I find that evidences of supposed syphilis appeared at a very early date, even in the bones of prehistoric man. To Professor Parrot of the Faculty of Medicine of Paris, more than any one else, we are probably indebted for knowledge of pre-historic syphilis; according to him, excavations made in 1867 at Solutré in Saone et Loiré show bones of the reindeer, of horses, cut flints, etc., belonging to the Gallo-Roman period, and in 1872 the Abbe Ducrost found a skeleton both tibias of which showed exostosis, said by Broca, Allier, Parrot and Virchow to be due to syphilis, and that the skeleton could be referred to the Stone Age.

In 1880 the Anthropological Museum of Paris received a specimen which proved to be prehistoric syphilis—a fragment of a skull belonging to a race which had disappeared before the 15th Century. At a meeting of the Anthropological Society held November 18, 1880, M. de Mortillot presented a skull and jaw bone from the cemetery of Breny which is characteristic of the Frank race; the teeth in this jaw were crossed by horizontal furrows which M. Parrot believed due to *infantile syphilis.* M. Parrot in an article published in the *Review Scientifique,* says that Prof. Pollet of the Faculty of Medicine of Lyons, thinks this disease very ancient, that China as proven by Commander Dubry, has know it from time immemorial—that the *Yaws* of Africa, is identical with Syphilis, and says in his article, "I am convinced that syphilis manifested itself long before the discovery of America in different parts of France. Professor Parrot says the jaws of the young Frank which contained fourteen teeth, (8 affected by syphilis), shows that the disease was in France before the *7th Century;* these times are still in the domain of history, but pieces of skulls and teeth taken from the dolmens and caverns of Lozeré and which show undoubted lesions of syphilis—prove to us says Parrot, "that the disease existed *in pre-historic times.*"

SYPHILIS AMONG THE CHINESE.

In 1863 Capt. Dubry, Consul at Hong-Keon, published a very complete work on China from

*Read before the Franklin County Medical Society, St. Albans, Vt., May 25, 1911.

a medical point of view. He was thoroughly acquainted with the Chinese language, and translated the secular manuscript which escaped being burned by Emperor Tsin-che-honang. These manuscripts treat of nothing but medicine. From the researches of the captain we learn that the most ancient emperor of China was Chin-nong, who lived 3216 years before Christ; 1000 years later appears the name of Hoang-ty, Emperor of China, who 2637 B. C. caused all documents on medicine to be collected and reduced to writing, making the *Hong-ty Mi-King* the medical treatise of Hong-ty, a wonderful book, showing from time immemorial that they had been using carbonate of soda, sulphate of iron and sulphur with which they had cured the itch, and mercury to expel the syphilitic virus from the blood and which they used many centuries before America was discovered. Over 45 centuries ago according to Hoang-ty's work, the Chinese knew more about venereal diseases than was know at the time Astrue wrote in 1742 who stated that from the Pope at Rome to the lowest scullion all were affected with syphilis and according to Hong-ty the Chinese were using gunpowder when Europeans were using cross-bows. Hong-ty first describes gonorrhea, the soft chancre and bubo following, and vegetations on the generative organs, *probably venereal warts;* then of chancre which spreads through the blood, and advises treatment by friction of mercury mixed with oil. Hong-ty also speaks of "coppery red spots, headaches and pains only felt at night, of its affecting the throat, etc." This work of Hong-ty's shows that syphilis was among the Chinese years before Christ.

SYPHILIS IN JAPAN.

Syphilis in Japan was especially observed about the beginning of the 19th Century. It has been only a few years practically since Japan was a barbarous nation; the strides she has taken towards becoming one of the leading nations of the world is something marvelous. There is a Japanese manuscript dating 808 A. D. whose title in English means "A Collection of Formulae Arranged in Classes, of the Period of Dai-Do." At that time the Emperor of Japan, Haizian-Tanno, seeing his country invaded more and more by Chinese science, decided to follow the example of Hoang-ty of China and collect all books concerning medicine in Japan. This work he gave to his two physicians. It was lost and not until 1887 was it found, by a shopkeeper in the Province of Bungo, Island of Kinshen—a well preserved manuscript in a pagoda of that country which he returned to the proper authorities. Dr. Kayama, a physician of Kioto, Japan, who had studied in Leipzig, studied this document with care and found certain parts treated venereal diseases especially syphilis. He translated them into German and sent them to his old professor, Dr. Schen.

There was syphilis among the Pharos of the ancient Egyptians. Dr. Buret in writing of this says, "up to the present time but two papyri have been found relating to medicine—one the medical papyrus found in the Berlin Museum, the other the Eber's papyrus brought from Luxor by Prof. Eber, who published it in 1875. The medical papyrus was commenced by King Throth and after his death continued by King Sucet; it dates back to the reign of Rameses II, making it about 3000 years old, and speaks of inflamed vagina, fissures of the vagina and vegetations—not very definite, but a study of the people, their way of living, etc., leads one to suppose—says Dr. Buret, "that they had syphilis."

The works of Hippocrates written about the middle of the 5th Century B. C., speaks of ulceration of the mouth, rotting of the genitals, swelling in groins, pustular and vesicular eruptions and other sores. Galen, born at Pergamos A. D. 131, wrote an Encyclopedia in which is mentioned Cullossities, boils, vegitations, tubercles of mucous membranes, osterocepic pains (syphilitic pains) and many other things which point to syphilis in those days. The Bible contains allusions referring to venereal disease and especially syphilis; according to modern writers, gonorrhea is perfectly described for it says: "He who hath relations with prostitutes will become unclean for everything."

In Leviticus it states if an ulcer has arisen in the skin or within the flesh and it has healed and there appears at the place where it existed a scar, white or somewhat reddish (syphilis) it is probably due to syphilis.

Among the Hebrews it was called "plague of Baal Peor" which signifies among the Hebrews "The God Penis." The Hebrews worshipped the gods of the daughters of the Moabites and devoted themselves to the worship of Baal Peor,

and Moses caused all of the 24,000 men to be killed by steel, no doubt to get rid of syphilis they had contracted. Josephus, speaking of the epidemic, says it was highly contagious and transmitted to members of the same family. Abraham and Sarah his wife went down to Egypt on account of the famine in their land. Sarah was very beautiful to look upon, so Abraham passed her off as his sister to save his own life. Pharoah took Sarah the supposed sister of Abraham to himself and the Lord visited upon him a great plague (probably syphilis). Abimelech did the same as Pharoah and caught the disease. King David was said to be afflicted by it, and he cried to the Lord saying "My bones are diseased, there is nothing sound in my flesh," etc.

Syphilis is mentioned in the early literature of Mexico and Peru. It was recognized 300 years before Pizarro conquered the Capital of the Incas.

From this small amount of proof of the early existence of syphilis which I have singled out from the very large amount I might have given you, but for the desire not to weary you, and to save time, one can but believe that syphilis prevailed the world over long before Columbus and his discoveries were ever thought of. The names given to this disease have been many, and usually the name of the country, people or saints from which it was supposed to have come, was given it—as "The French diseases," "Morbus Gallicus," "Saint Maerié," "Saint Fiacrii," etc. The name syphilis was derived from a poem written by Fracastorius in 1530, a shepherd named Syphilis had blasphemed the gods for supposed injury to his flocks and this disease was sent upon him as a punishment. As to the cause of syphilis Lassar in the year 1905 in speaking in regard to this said there were one hundred and twenty-five established causes given in the past twenty-five years, (which I will not take your time to mention) except the discovery of the Spirochete Pallida in 1905. On May 17, 1905, at a meeting held at the Berlin Medical Society, a paper was presented by Schandinn and Hoffman, both Germans, on the discovery of the Spirochete Pallida with microscopic specimens of the same which is probably the specific germ of syphilis. An eminent French writer, Phillip Ricord, was probably the first to divide syphilis into its three stages, namely, primary, secondary and tertiary, and later by others a fourth or parasyphilitic stage; and I believe this same writer was the first to discover that gonorrhea, chancroid, and chancre were three different and distinct diseases. Previously the symptoms manifested by these diseases were supposed to be due to one and the same disease, syphilis. Today there is probably no country on the face of the globe entirely exempt from this disease, and the largest centers of population, and those which have the greatest trade relations with the outside world, greatly exceed numerically in persons afflicted with this disease the smaller centers of population and trade. Those centers exercising the least care in regard to prophylaxis and treatment suffer the worst. I will simply notice in passing that every organ and tissue of the body has been attacked by this disease and the pathological appearances and symptoms have been described by different authors.

In regard to the early history of the treatment of syphilis will say as I have already stated that the Chinese were the first so far as known to use mercury; Dr. Buret says the Pagans used prayers and hygiene; the Romans used iron and caustics; in the Middle Ages—the ages of superstition,—fasting, prayers and unnatural debauches were employed (I suppose with the idea that "like cures like").

At the beginning of the epidemic of Naples which occurred in 1494 most of the victims died for want of care; in 1533 the first mercurial pill was used, but it was abandoned because of stomatitis following, for sodorific woods, but came into use again in 1560 when it was used in the form of ointments, lotions and inunctions. In 1743 Van Swinton used corrosive sublimate in a solution which remains classic. In the 19th Century Dupuytren extols bichloride of mercury in form of 1-8 gr. pills, and Ricord and Breth the protiodide pill. In 1836, Wallace, of Dublin brought K. I. into use, and since then mercury and potassium iodide have been the so-called specific treatment for syphilis. A host of other drugs have been used. Mercury subcutaneously was first introduced by Hebra and Hunter but it was not until after the appearance of a paper on this subject by Lewin in 1867 that its use in this way became quite extensive. Further remarks on treatment I shall leave for Dr. Keenan of Montreal, who I am very glad to see is with us today.

In closing I wish to thank you for your courtesy in listening so patiently to what I have had to say in regard to this subject and I wish also to acknowledge my appreciation of the assistance given me in preparing this short paper, by those in charge of the Congressional Library at Washington, those in charge of the Medical Library in Boston, Parke, Davis & Co., Dr. Davidson of this city and for the several journals received which have been a help to me.

Mr. President and gentlemen, I thank you.

Eclampsia.—Albeck states that at the Copenhagen maternity in charge of L. Meyer it was found that the prognosis both for mother and child was graver the longer the interval between the first convulsion and the expulsion or extraction of the fetus. About 14 per cent of the women and 16 per cent of the children died in the twenty-eight cases in which delivery followed at once after the first attack; the mortality increased to over 16 per cent for the mothers and 44 per cent for the children in the fifty-four cases in which from 3 to 10 attacks had occurred before delivery. Over 44 per cent of the mothers and 68 per cent of the children succumbed in 29 cases in which delivery was late. He comments that mortality is considerable even when the women are delivered early. His experience further shows that severe cases of eclampsia can develop without convulsions and that several attacks of convulsions may occur in the milder cases and that they may be absent in the more serious. The question now is to learn to distinguish the inherently mild cases so that expectant treatment may be justified in them. In the six fatal cases in which delivery followed at once after the first one or two attacks of convulsions, all the patients had long presented prodromal symptoms before convulsions developed. He advises therefore *not to wait for the convulsions when there is a long phase of these prodromal symptoms*, but to deliver the woman at once. His material embraces further eight cases in which convulsions did not come on until after delivery; two of the women died. Also twelve cases of eclampsia without convulsions at any time; with a mortality of one of the mothers and two of the children. Among the prodromal symptoms he mentions edema of the legs and thighs, trunk, back of the hands and in the face.

On the whole, Albeck asserts, the convulsions must be regarded merely as an additional symptom in the clinical picture of eclampsia, following other cerebral symptoms.—Somers (Omaha) —*Western Med. Reviews.*

The Use of Water in Health and Disease.—There is no doubt in my mind that, as a rule, the majority of people do not take enough pure, fresh water internally. Many more or less severe diseases, not excluding tuberculosis, have their origin is an impaired digestion, often due to chronic constipation. There is no better remedy for this prevalent affliction of ordinary constipation than the judicious use of water. To take two glasses of fresh water in the morning before breakfast, not all at once, but in three or four portions, during the half hour just before eating the morning meal, and in addition to this, a few glasses during the day, not at meal time, but an hour or two before or after, will certainly greatly help to combat a tendency to habitual constipation. Water is particularly beneficial if taken about a half hour before retiring. Water cooled by placing a bottle of water in the ice-box or by surrounding it with ice, or cooled simply by placing it outdoors in cold weather, is always to be preferred to so-called ice-water, which the average American likes so well.

The daily use of water not only keeps the body clean, but is the means of strengthening the nervous system, thus increasing the natural resistance to disease. Begin with a child from the tenth to the twelfth month, and gradually accustom him or her to the use of cold baths. The best way to begin is after the daily warm bath, to rub the child a few times with the hand dipped in cold water and then dry him rapidly; sooner or later a cold sponge bath may be given, and eventually a little douche or spray. It is absolutely necessary in the use of cold water that the reaction shall follow rapidly. This reaction is manifested by a pleasant warmth perceived by the child, and is made visible by a reddish appearance of the skin.—*Pacific Medical Journal*, May, 1911.

Scarlet Red Ointment.—An 8 per cent ointment of scarlet red (Scarlet R) has been found most effective in the treatment of sluggish ulcers, as of those of the leg. It has the property of stimulating the growth of epithelial cells in a marked degree.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D.,
B. H. STONE, M. D., } .....*Editors.*

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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

BURLINGTON, VT., JULY 15, 1911.

EDITORIAL.

The vacation is growing on the American people. No doubt it is partly a fad but it is in some part certainly a natural result growing out of the constantly increasing strain of modern life. The fierceness of the struggle for success demands some time of relaxation if the individual wishes to escape an untimely grave. Every physician has put these facts in his most persuasive way to some overworked business man or some society woman threatened with nervous collapse and yet how seldom does the doctor follow his own advice. No business or profession requires so much of a man and furnishes so few hours of relaxation. This failure on the part of the doctor to follow the same sensible advice in his own case which he applies to others is due to a three fold cause.

First, he often feels that he cannot afford to go. That this is so is a reproach upon our civilization for if any "laborer is worthy of his hire" surely the busy doctor is. The profession in general is notoriously underpaid. But this is not the only reason. More the failure of the physician to take a needed relaxation is due to a false notion of his duties to his patients. While this is a commendable feeling yet every man owes to himself, his family and his community the duty of keeping himself well and any sense of duty to patient which goes to the extent of unnecessarily endangering his own life is Quixotic. Finally a great many men who are not deterred by either of the reasons stick to business from sheer inertia. They have simply gotten into a rut—have gotten out of the habit of taking any rest.

Among the great changes brought about by the rise of the automobile industry are some of moment to the physician. The ownership of a car by the doctor himself lightens wonderfully the burden of long country drives and enables him to do a much larger business if this is called for or if not it gives him more time for leisure. There is no class of men who really have more use for the automobile in their business than the country doctor, with long rides. But this is not the only way in which the automobile has or is destined to be of import to him. The automobile has wonderfully opened up the country to the city dweller and many a country physician who a few years ago derived his whole income from treating the sick of the country-side has on his summer calling list the names of many wealthy city inhabitants. These people wish a doctor who comes into their homes to be cultured not only in the matters of his profession but also in those little niceties of conduct which serve to distinguish the gentleman from the boor. They are ready and willing to pay liberally for the services of such a man. It behooves the country doctor to meet these changed conditions half way. He is no longer an isolated individual but is and is likely to be more and more closely in touch with his metropolitan confrere. The old time country doctor is gone as

much as we hate to see the disappearance of this picturesque landmark, and the physician of the future must be a man of larger affairs.

We the members of the Attending Staff of the Mary Fletcher Hospital, feeling our overwhelming personal loss in the death of our honored, respected, and trusted colleague, Dr. S. E. Maynard, wish to express our sorrow which we both as an organization and personally feel.

We also wish to offer the most sincere and heartfelt sympathy to his family in their bereavement.

JOHN B. WHEELER,
B. H. STONE,
C. A. PEASE,
} Committee.

NEWS ITEMS.

A suit has just been decided for the defendant in New York City when a mental scientist sued for $502 for absent treatment. The defence claimed the acts of the mental scientist were illegal, fraudulent and false, and contrary to public policy, and the jury so decided.

Some time ago the lower courts in New York dismissed a suit against the Presbyterian Hospital brought by Jane Darcy because the hospital performed an autopsy on the body of her son against her wishes and retained possession of his body when she demanded it before the autopsy. She had paid $1 a day for his treatment. The hospital asked her to consent to an autopsy, when she refused the physician sent for a coroner's physician who performed the autopsy. The Court of Appeals has just reversed the lower courts and decided that the hospital must defend the suit for $50,000 damages brought by the mother. The Court of Appeals says that the mother was entitled to have possession of her son's body at once. That in the State of New York it is a misdemeanor to do an unauthorized autopsy except where the person dies in a suspicious or unusual manner. The hospital, the court says, may show on the trial that Darcy died under such circumstances. The mother sues for alleged wounded feelings and mental distress.

The Court of Appeals of New York has declared unconstitutional the provision of the inferior courts act for cities of the first class which provides for a medical examination of women prisoners on the ground that it requires a magistrate to commit a person upon the report of a non-judicial officer. The court reverses the order of the Appellate Division.

Dr. H. H. Swift of Pittsford, Vt., has gone to Marble, Col., to organize a hospital service for the Colorado Qule Marble Company. During his absence Dr. Sullivan has charge of his work at Pittsford.

Dr. L. J. Calahan, U. V. M. 1910, has located at Manchester Centre, Vt.

Dr. W. J. Howard, U. V. M., 1906, has removed from Roxbury to Waitsfield.

Dr. David Marvin has sold his office equipment and practice to Dr. Matthew W. Hunter, who graduated from the University of Vermont a year ago and has been doing hospital work in Lynn, Mass. Dr. Marvin will accept a professorship in the college of medicine, University of Vermont.

Dr. C. E. Allen of Swanton sailed from New York May 18th for a short stay in Europe. He expects to return about the middle of July.

The eighteenth annual meeting of the Vermont State Pharmaceutical Association was held in Burlington, June 20, 21 and 22.

The fifty-ninth annual meeting of the Maine Medical Association was held in Augusta, June 28 and 29.

Dr. W. J. Aldrich and Dr. E. H. Ross of St. Johnsbury, Vt., sailed June 24 for three months' study in European hospitals, visiting England, Scotland, Germany, Austria, Italy, Switzerland and France.

TAKE CARE OF YOUR MOUTH.

Don't swap pipes, and when you buy a cigar, bite off the end or cut it with your own knife or cutter; don't use the common cutter in the store, which someone has probably used just before you after wetting the end of his cigar with his own saliva!—*Millican.*

OBITUARY.

Obituary of the Late Dr. F. S. Hutchinson.*

READ BY

DR. ALAN DAVIDSON.

Mr. President and fellow-members of the Franklin County Medical Society:—

Since our last meeting we have lost by the untimely hand of death one of our strong, vigorous, progressive members, the late Dr. Frederick S. Hutchinson, of Enosburg Falls. On January 3rd of this year the span of horses which he was driving became unmanageable, his sleigh was upset against an iron post, and he sustained violent injuries to the abdominal organs from which he died three days later.

"Dr. Fred," as he was familiarly, and endearingly known throughout his county, and beyond, was born in Enosburg, March 27th, 1861. His father was Dr. William R. Hutchinson, for many years a leader among the medical men of this county, whose stalwart ideals, and wise counsels many members of this society remember well. His mother was Celinda Smith Hutchinson.

He received his early education in the public schools of his native town and at "Montpelier Seminary" from which he was graduated in 1877. Three years later he entered the Medical Department of the University of Vermont. It cannot be said that this was the beginning of his study of medicine for often he has told that before he entered college at all, he had gleaned much practical knowledge from his father which in after years contributed largely to his own resourcefulness, and success. He was graduated from the University with honor in 1882, when 21 years of age. Soon after he began the practice of his profession in his home town, where he continued his labors until his death. In 1887 he married Miss Helen Elizabeth Moore of East Berkshire who with his brother, Dr. Watson Hutchinson of Enosburg Falls, survive him. In 1904 he was elected to represent Enosburg in the State Legislature. From the very beginning of his career he was noted for a professional enthusiasm, and a devotion to duty which associated with infinite tact, splendid ability, and a genuine love for, and sympathy with, his fellowmen soon placed him in the fore-front of Vermont medical men, and but for his great modesty, and dislike for publicity he could easily have attained in any community that preeminent position which he held in his own. His skill, and resourcefulness soon became known to the people and physicians of the surrounding towns, so that for many years previous to his death he enjoyed an extensive consulting practice. This in conjunction with a large and ever increasing private practice, so drew upon his time and strength in later years that even his splendid physique began to experience the strain of 29 years of arduous and exacting duty yet never to the end did he allow his own physical discomfort and exhaustion to come between him and that high conception of duty which he held.

To rich and to poor alike, he ministered untiringly. The thought of recompense was the last to enter his mind. He was an ideal family physician. His race was gentle, and the elements so mixed in him, that nature might stand up and say to all the world, "This was a man."

*Read before the Franklin County Medical Society, St. Albans, Vt., May 25, 1911.

Dr. Arthur Platt of East Providence, R. I., died of blood poisoning at his home June 15th.

Dr. Platt was educated in the Burlington high school and was graduated from the medical department of the University of Vermont in 1900 when he was but 21 years old. He was the youngest man to graduate from the medical school and his graduation was more than ordinary not only because of his age, but because he ranked third in the list of 10 honor men in his class. After leaving medical school he went to New York where he took a post-graduate course in the College of Physicians and Surgeons.

He was always a hard worker at his profession and soon he built up a practice which he was unable to handle himself. He was of considerable assistance to other younger physicians in the village at times and when his brother finished his medical studies he took up part of his brother's practice.

Dr. Weston H. Rice, a Westford boy, for some years clerk in the Merchants' National Bank, and graduate of the Medical Department of the University of Vermont, class of 1906, was killed in an automobile accident on Tuesday, June 13th, at Oakland, Cal., where he resided. He was 38 years of age and is survived by his wife, who was Miss Nellie Hopkins of Essex Junction, and one son, three years old,

his mother, Mrs. Marion Rice of 61 Greene street, this city, his sister, Mrs. O. J. Nichols of Plattsburgh, N. Y., and two brothers, Martin H. Rice, U. V. M., '07, and Charles M. Rice, U. V. M., '10, both now residents of Milwaukee, Wis.

Hamilton Byron Griswold, University of Vermont, 1886, died at New Milford, Conn., June 24, 1911. Deceased practiced medicine in above named place since 1890. He leaves a widow and two daughters, aged 18 and 16, respectively. At the time of his death he held the office of commander of Upton Post, G. A. R.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

OXYDONOR; OXYGENOR; OXYGENATOR.

Three mechanical frauds—the "oxydonor," the "oxygenor" and the "oxygenator"—are discussed in *The Journal A. M. A.*, October 22, both editorially and in a contribution from the Chemical Laboratory. The oxydonor, the oldest of the three and the most widely advertised, is a modification of an earlier fake known as the electropoise. The essential parts of all these humbugs are (1) a metallic cylinder, (2) one or more flexible cords or wires and (3) disks to be attached to the ankle or wrist of the foolish individuals who use them. Some of these pieces of nickel-plated piping are filled with a mixture of sand and sulphur, others have a stick of plain carbon in them, while the electropoise was empty. Their price varies from $10 to $35, and they are claimed to cure every known disease. The advice given by the exploiters of the "oxygenator" is particularly vicious, as people are urged to rely on this piece of gaspipe for the cure of diphtheria in children. *The Journal* in summing up, says: "The 'electropoise,' the 'oxydonor,' the 'oxygenor' and the 'oxygenator' are utterly worthless—except as a means of enriching their exploiters. Their therapeutic value, aside from the element of suggestion that may be induced in those simpletons who are willing to pay from $10 to $30 for a piece of nickel-plated tubing, is absolutely *nil*. As already said, if adults wish to squander their money on such foolishness and are content to confine the 'treatment' to their own persons, well and good. If they have nothing much the matter with them they may believe they have received benefit; if they are dangerously ill, Nature will probably exterminate them as unfit. But let no person try to 'cure' the helpless child with such frauds; as soon as that is attempted, such an individual ceases to be a harmless idiot and becomes a dangerous one."

SYPHILIS IN CHILDREN.

The value of salvarsan in infantile syphilis has been tested in three cases by L. Fischer, New York, who reports the results in *The Journal A. M. A.*, February 11. He selected the common types of the disease usually encountered in children, and in each case the treatment was preceded by a positive Wassermann or Noguchi reaction. In one case there was also a positive tuberculin reaction. In the first case, a boy with congenital syphilis affecting different parts of the body and also lesions in the knee-joint, was greatly relieved within forty-eight hours. The injection given was of 0.3 gm. salvarsan in the left buttock and was not followed by local reaction. In the second case, that of a girl 18 months old, the lesions began to disappear within twenty-four hours, but the local symptoms were more severe and a neuritis and paresis, most marked on the left side, suddenly appeared, followed by trophic symptoms which have been only slightly improved by treatment of one month. The prognosis is dubious. In both cases there was a decided leukocytosis. The third patient was a girl, 8 years old, who had been treated for syphilis for two years. She had various eruptions and nodules on the tibia and radius and enlarged glands; she had never been healthy. The liver was enlarged and the spleen greatly so, extending below the umbilicus. These organs were not greatly reduced after the injection, though she was otherwise improved. He sums up his conclusions as follows: "From a study of the foregoing experience the following deductions are justified: First, the toxicity may be due to a hypersensitive body, possibly an idiosyncrasy. Second, the dose of the drug (0.3 gm.) is too large for children, and hereafter I shall advise no more than 0.1 gm. of the Ehrlich-Hata preparation, the dose not to be repeated for at least several weeks, or until we are justified in assuming that there are no systemic symptoms associated with the first dose. From my present experience I would strongly advise against the injection of ambulant patients, but would require the injection to be given either in the hospital or in a sanitarium, where proper medical supervision and competent nurses can supervise details, and note toxic symptoms as early as possible."

TREATMENT OF POLIOMYELITIS FROM A NEUROLOGIST'S POINT OF VIEW.

B. Sachs, New York (*Journal A. M. A.*, October 22), states that our views of the treatment of this condition have undergone a radical change. It will not do for the physician to sit idly and state that "there is little to be done." The disease calls for patient and intelligent treatment with prospect of reward. The entire aim of treatment, Sachs says, is mildly to stimulate the nerves and to exercise in one way or another muscles which cannot be exercised by will. This, he says, can be done by electricity, massage and by active and passive exercises. He takes up in succession the proper form of electric treatment, the methods of giving massage, and emphasizes the importance of active and passive exercises especially in the earlier paralytic stage. He touches briefly on orthopedic treatment and states that as a rule much time is wasted in hoping for a return of normal conditions. If six months or a year after the onset of poliomyelitis a group of muscles shows considerable wasting, an absolute reaction of degeneration and no return of muscular power, it is useless to hope for spontaneous improvement. The orthopedist should then step in and attempt to correct the mischief done by the disease. He states that he knows of no drug which has the slightest effect on the spinal lesion or on the paralyzed muscles after the acute stage has been passed. While salicylates and mild narcotics will have to be employed in the earlier period of the disease, and even iodids and ergot may be administered in the earlier stages, there is no sufficient reason to ex-

hibit these drugs in the paralytic and post-paralytic periods. For the relief of neuritic and muscular pains, give a combination of pyramidon, citrate of caffein and aspirin, or aspirin alone, varying the quantities according to the age of the patient. If necessary, codein may be added. Injections of strychnin or of arsenic are absolutely useless, he believes, though there can be no objection to the use of the ordinary blood and nerve tonics, provided the practitioner keep in mind that he is attempting to improve the general condition of the patient and is not endeavoring directly to effect a change either in the spinal cord lesion or in the paralyzed nerves and muscles. In conclusion, he insists that intelligent gymnastic exercise of the paralyzed or weakened limbs is the method to which one should pin one's faith, and from personal experience he states that the physician who directs these exercises intelligently, and who will direct them patiently, will have no reason to regret the time devoted to this cause. In recent epidemics the disease has been of such varying intensity that we have no right to claim that any case is a hopeless one, and much can be done by properly directed therapeutic efforts.

CONGENITAL HIP DISLOCATION.

The prognosis in congenital dislocation of the hip forms the subject of a paper by E. H. Ochsner, Chicago, (*Journal A. M. A.*, October 22), who classifies these cases under three heads: First, cases in which no serious effort has been made to reduce the dislocation; second, cases which have come to the surgeon too late for a successful bloodless reduction, which he reckons as at the sixth year of age in double dislocations and eight years in single dislocations; third, patients who come in time for the bloodless operation to have a prospect of success, i. e., before the above ages. If untreated or ineffectively treated, the prognosis is always bad. At best, there is an unsightly deformity and a defect in gait which are serious enough afflictions, especially for girls. The power of endurance is also impaired and this is likely to be worse with increasing age or to become so after some infectious disease or severe strain. Because traumatic dislocations sometimes recover spontaneously, some still believe that a certain percentage of congenital cases may also do so, but the conditions are different. The operation of choice is the Lorenz operation, and here, when the patients have passed the age limit, the results are not very promising, though a reduction of dislocation can usually be temporarily obtained. Ochsner considers that the open method of reduction is not justifiable in double dislocations, though the case is different in single ones. He has had two patients with double dislocations, in each of whom he was able to reduce one hip by the bloodless method, and, failing to reduce the second hip, he subsequently employed the open method and obtained fair results. His own statistics are given. He has treated 26 patients below the age limit, 17 of these with single dislocations, and reduction was secured in all with good success. Nine patients or 18 hips, with double dislocations below the age of 6 were treated. Reduction was secured in 14 hips by the bloodless method and 10 of these have been out of the cast for a year or more; 9 of the 10 had good anatomic functional result, one relapsed after the cast was removed. Good anatomic functional results were obtained altogether in 10, or 71 per cent. The 4 still in casts were in good condition when last seen. The two assertions that he can make without fear of contradiction are, that first, no patient should go undiagnosed beyond the age of 3; and second, if properly treated at this age the majority can be successfully reduced and good functional and anatomic results obtained. He cautions against the use of too great force, especially suddenly. Another common error is to reduce by bringing the head of the bone around the lower border of the acetabulum instead of over the posterior rim. He thinks that this is one of the principal causes of the large number of anterior transpositions and also for the large number of failures in the hands of some operators. When reduction is once accomplished the hip should never be intentionally reluxated. The hamstring tendon should not be stretched at the time of reduction. Their action is fully as important in holding the head opposite the Y cartilage as is the subsequent weight bearing. The tenseness of the hamstring muscles is a very valuable sign for the first couple of weeks that the hip has not reluxated. The cast should be applied over stockinette instead of glazed cotton. If the bony prominences are protected by a little felt or quilted gauze, this will be much more comfortable than cotton padding, and it holds the head a great deal more firmly. The cast should be applied with the thighs abducted to a right angle and flexed to a right angle, and should be left in place for a year from the time of reduction with only one change of cast. Ochsner believes that development of the cotyloid cartilage is a most important factor in the permanency of the reduction.

ORTHOPEDIC TREATMENT OF ACUTE POLIOMYELITIS.

John Ridlon, Chicago, (*Journal A. M. A.*, October 22), states that the treatment of this disease consists of massage, use of braces and surgery. In nearly all cases of anterior poliomyelitis contraction deformities develop sooner or later. In most cases, fortunately, it is later, some months after the acute attack with its usual accompaniment of sensitiveness and soreness of the limbs has passed, and when it is comparatively easy with splints or braces to prevent it. But in a few cases contraction deformities, even of severe degree, develop during the first eight or ten days, while the sensitiveness is still so great that it seems a positive cruelty to move the child at all. But if the attending physician allows contraction deformities to develop, whether it be early or late, he should realize fully the responsibility he is taking, and should stand ready to admit that to his neglect of a simple precaution the child must have all the rest of his life more useless limbs than he needed to have. For no orthopedic or surgical treatment can ever make these contracted muscles as good as they might have been had he prevented the development of deformity. In regard to braces, Ridlon says that here and there an orthopedist can be found sufficiently competent to correct some slight contraction deformities by braces constructed to stretch the shortened muscles, but of these there are few, for most young orthopedists seem to have a greater ambition to perfect themselves in surgery than in mechanics. As a rule, braces should be used only to prevent the development of deformities at joints where the tendency is not great, in joints where the deformity has been fully corrected, and to enable the patient to use the limb more and better than he can use it without the brace. If there is no deformity and no tendency to deformity and

the patient can use the limb without a brace, then a brace should never be used. A brace should be a help, not a burden. It is greatly to be regretted that the cupidity of some physicians leads them to order braces from surgical instrument makers who give a commission of 25 per cent. on the cost of the brace, for this usually means a costly brace that the physician can neither measure for, fit to the patient, nor use intelligently. Ridlon discusses the indications for surgery and states that there is a certain risk, not often appreciated, in the use of great force in the correction of paralytic deformities. For both from non-use and from deficient nutrition arising from the paralysis, the bones grow thin and friable and may be broken before the deformity can be overcome. These bones when broken sometimes are the source of fat emboli, not infrequently the cause of death. But when a deformity can be safely corrected without a cutting operation it should be so corrected. Then it should be put up in a well-padded and heavy plaster splint and kept in the splint and used for from four to eight months. After that an efficient brace should be worn for years. When a paralytic deformity cannot be corrected by force alone, it can generally be fully corrected by simple tenotomies and force. When this is done the after-treatment should be as before indicated, namely, a well-padded and heavy plaster splint, worn for months while the limb is being used, followed by a brace, for years in most cases, and massage and movements. He declares that tendon splicing is useless and that tendon transplantation is of value in a small and carefully selected group of cases. The tendon-lengthening and joint-fixation with permanently buried silk ligatures as practiced during the past five years holds out as yet a promise of better results when well done in carefully selected cases. Yet hardly a week passes that we do not see cases operated on by others that have been utter failures. As yet it is too soon to say what the ultimate results will be after ten or fifteen years have passed in the cases that now seem to be entirely satisfactory. Treatment of these cases by nerve grafting is useless. The resection of flail joints in complete paralysis in order to obtain ankylosis and escape the burden and cost of braces for life is sometimes a success, and sometimes a failure through failure of bone union, probably owing to the impaired nutrition. The prognosis, in Ridlon's opinion, is not good for recovery from the paralysis.

THE CLINICAL ASPECT OF INTUSSUSCEPTION.

J. E. Adams (*The Practitioner*, 1910, Vol. LXXXV, p. 697) reports 100 cases treated at St. Thomas' Hospital during eight years. Seventy per cent. of the cases were in infants under one year. There were 10 enteric, 16 colic, and 73 enterocolic. Polyp or tumor of the intestine may be an important cause. The cardinal symptoms are pain, present in 92 per cent.; vomiting, 90 per cent.; bloody stools, 92 per cent. Diarrhea was seen in 13 per cent., and constipation in 33 per cent. In 27 cases a tumor was felt per rectum. Ninety-one cases operated upon gave a mortality of 35 per cent., due largely to shock. As usual, the mortality was much less in cases operated on within the first twenty-four hours. Charles E. Farr.—*Archives of Pediatrics.*

DANGER OF NaCl-FREE DIET.

By Dr. Bobin (*Les nouv. rém.*, 1910, No. 20; Ref., *Fort. d. Med.*, 1910, No. 52, p. 1659).

The temporary withdrawal of NaCl may perhaps be of value in certain interstitial nephritides where dry retentions occur, but it should not be continued for any length of time; otherwise albuminuria will be increased, uremia favored, and phlegmasia alba dolens and embolism may occur.

The author reports a case in which after one month of suspension of NaCl such painful cramps with trembling of the hands and arms occurred that the patient could not hold a pen; also numbness of the limbs, insomnia and vertigo.—*Post Graduate.*

CEREBRAL HEMIPLEGIAS WITHOUT ANATOMICAL FINDINGS.

By Dr. Mikalski (*Archiv. für Psychol.*, Vol. 46, 1910; Ref., *Centralblatt f. d. med. Wiss.*, No. 12, 1911).

The author reports six cases of cerebral hemiplegia without anatomic findings and discusses similar cases described in the literature, about 62 in number. These cases included 30 right-sided and 32 left-sided hemiplegias, in 37 men and 22 women. The preponderance of men is referable to their greater susceptibility to arteriosclerosis and alcoholism. A division of the hemiplegias without anatomic findings into cases in previously healthy individuals, and cases occurring in the course of diseases, is untenable for the reason that hemiplegia never occurs in actual health. There is usually arteriosclerosis of some degree, and the few cases on record in which the vessels are said to have been normal, are accounted for by the superficial inspection at the autopsy, without confirmation by the microscope. Hemiplegias without anatomic findings arising in the course of diseases, are due to the action of poisonous substances in the blood, which is assisted by circulatory disturbances, such as valvular lesions and arteriosclerosis. As a rule, these hemiplegias occur during the second half of life. The circulatory disturbances may become obliterated after death. Under these conditions the toxic and circulatory factors merge into one another, so as to be indistinguishable. Toxic hemiplegias include the uremic cases, which run a variable course, usually terminating after a few weeks in uremia but sometimes persisting for years. The literature contains 17 cases of toxic hemiplegia of uremic origin. Diabetic hemiplegias without anatomic findings, all presented an abnormal vascular system, supporting the toxic action. They occur only in grave forms of diabetes, and lead to death within a few weeks. Toxic hemiplegias with a variable course, and remissions, occur also in alcoholism. Any infectious disease, such as pneumonia, tuberculosis, puerperal fever, pellagra, and carcinosis, may be associated with toxic hemiplegia.

Twelve cases, previously healthy, were attacked by hemiplegia, eleven being between 63-85 years of age. Here the predominant part was played by arteriosclerosis.

Hysterical hemiplegias have nothing in common with the conditions described above.—*Post Graduate.*

SPLENOMEGALY WITH RECURRENT JAUNDICE ENDING IN HEPATIC CIRRHOSIS AND ACITES, WITH REMARKS ON THE SPLENOMEGALY OF INHERITED SYPHILIS IN CHILDREN.

By Dr. F. P. Weber (*British Journal of Children's Diseases*, March, 1911).

The author presents a case of splenomegaly in a girl 12 years of age. She was rather delicate. Showed a moderate amount of jaundice, during the last three months of life. The feces were sometimes

of a good color and sometimes pale. The urine gave a faint reaction for bile pigment. For at least six years the spleen was palpable three fingers' breadth below the costal margin. The liver was apparently not enlarged, though it could occasionally be felt below the costal margin. Except a suggestive family history there was nothing to suggest syphilis. There was nothing abnormal in the blood picture.

Six years previous to her final illness there were two attacks of jaundice, from which she promptly recovered. The size of the spleen remained unchanged in spite of treatment with mercury and the iodides. Five years after these attacks she again developed jaundice. Soon after this acites appeared and a rapidly progressing cachexia set in. She became progressively anemic, and finally died, three months after the onset of ascites.

The necropsy examination showed a liver weighing 26 oz., contracted and hob-nail in appearance. On microscopic examination a medium degree of multilobular cirrhosis was found. The spleen was large (33 oz.), and microscopic examination showed the presence of an extraordinary amount of chronic fibrosis.

The author's review of the case and the literature may be summarized as follows:

1. The splenomegaly of inherited syphilis is often accompanied by occasional attacks of obstructive jaundice.
2. Moderate splenomegaly in children about the ages of 5 to 16 years may be almost the only evidence of inherited syphilis.
3. Hepatic cirrhosis, with or without acites, may be associated with splenomegaly.
4. It is doubtful whether the cirrhosis of the liver in these cases is of specific origin, but there may be diminished resistance of the liver, because of the syphilitic taint, towards the action of toxins.
5. Inherited syphilis in these cases may be associated with some degree of retardation in general physical development.
6. In these cases caution must be employed with regard to antisyphilitic treatment, on account of the general delicacy of the patients and their liability to renal and catarrhal complications.
7. In these cases there is little real anemia.
8. Other unknown (toxemia?) conditions may cause splenomegaly and recurrent jaundice in children.
9. Cases of "familial" splenomegaly occurring in two or more members of a family may occasionally be connected with an inherited syphilitic taint, but familial splenomegaly is better recognized in connection with congenital chronic acholuric ("hemolytic") jaundice, and with primary splenomegaly of the "Guncha type."
10. Splenomegaly in children may be the most important sign of the presence of hepatic cirrhosis, when the former is either secondary to, or due to the same cause as, the latter.
11. Some cases of splenomegaly in children with inherited syphilis ultimately present the characteristic clinical features of splenic anemia or Banti's disease.—*Post Graduate.*

BLOOD PRESSURE IN CASES OF ACUTE NEPHRITIS OF CHILDREN.

GORDON (*Archives of Pediatrics*, May, 1911) in an article on the "Blood Pressure in Cases of Acute Nephritis in Children" says after calling attention to the fact that the blood pressure is raised in these cases.

I have made observations on 9 cases, 7 of which were cases of acute nephritis and 2 were chronic, with acute symptoms superadded.

The instrument used was a Martin's modification of the Riva Rocci one. The systolic pressure only was taken. The arm-piece was the standardized 12 cm. cuff. The observations were made as far as possible under similar conditions.

Before any results can be determined as to whether the blood pressure is raised or lowered one, of course, must know what the normal pressure for children is at different ages. The following figures are the averages at various ages when worked out on a series of 170 cases between the ages of a few months and twelve years.

Under one year	.....	71	m.	m.	of mercury
1 year old,	.....	73	"	"	"
2 " "	.....	79.5	"	"	"
3 " "	.....	81	"	"	"
4 " "	.....	83	"	"	"
5 " "	.....	86.5	"	"	"
6 " "	.....	88.5	"	"	"
7 " "	.....	85	"	"	"
8 " "	.....	93	"	"	"
9 " "	.....	100	"	"	"
10 " "	.....	95	"	"	"
11 " "	.....	104	"	"	"
12 " "	.....	105	"	"	"

The only other figures I could find for comparison were those of Stowell, and his were slightly higher than mine. Other workers have given figures, but they are of no value for comparison, as the broad 12 cm. armlet had not been used. If a narrower armlet than the 12 cm. is used the figures are higher and the same uniformity in results is not obtained, as has been shown by Recklinghausen.

From observation of these cases the author draws the following conclusions: In children suffering from acute nephritis the blood pressure is raised and that this rise of the pressure may be very great. In 3 out of the 7 acute cases the hypertension was very marked. This fact is of diagnostic value, as in no other disease of childhood is there to be found the same high range of blood pressure.

Those patients who had the highest pressure were those in whom only a trace of edema was noticeable, and also it is of interest to note that in these same patients the quantity of blood in the urine was very great, the urine indeed looking like pure blood; the explanation of the large quantity of blood in the urine being, probably that a rupture of the renal capillaries had occurred consequent upon the greatly increased blood pressure. I shall not enter here into any discussion as to the cause of a raised arterial tension except to say that it appears difficult to explain the high tension and rapid drop which occurred in some of these cases except by assuming a large degree of spasm due to some toxin acting on the arterial walls.

I should like to emphasize the fact that in children it is only by means of the sphygmomanometer that changes in the blood pressure can be ascertained with any degree of certainty.

In concluding, I wish to express my indebtedness to Dr. Fowler for his kindness in allowing me the use of his clinical material at the Sick Children's Hospital, Edinburgh.

19 Atholl Crescent.

HAYNES (*Archives of Pediatrics*, May) points out some of the practical features concerning some of

the simple fractures produced by indirect violence as follows:

First. There is a distinct class of fractures found in children and not in adults, viz., epiphyseal separations.

While these fractures are not especially difficult to deal with as regards their immediate treatment, their later results are often very serious. Inasmuch as the growth of the bone takes place at the cartilage line, injury at this point may result in premature ossification and consequent arrest of growth. This possibility should always be mentioned to the responsible member of the family. Another feature of fracture into or through the cartilage is that the adjacent joint may be involved, an excess of bone produced about the joint and its function seriously crippled or even destroyed.

Second. We find, especially in the young, that form of incomplete break generally designated as the "green-stick" fracture. In this the bone has not been broken entirely through, but bent sufficiently to rupture the periosteum on one side with a splintering of the cortex of the bone on that side and with more or less compression or impaction on the opposite side of the bone. In this variety there are absent the usual pathognomonic signs of fracture, viz., abnormal mobility, crepitus and a false point of motion. One finds, however, angular deformity, swelling, "point-pressure" pain and loss of voluntary function.

Aside from the possible difficulty in diagnosis the practical point here is that this fracture cannot be properly reduced, as a rule, without first making it complete, because it is impossible to make the splintered ends of the fragments engage in their proper places with each other as the bone is straightened out. Unless this be done the angular deformity is bound to persist.

Third. Fractures in children are more apt to be transverse, not such long splintering and oblique breaks as occur in adults. There is consequently a noticeable absence of such serious complications as compound fractures, transfixion of muscles, fascia or vessels, or extension into joints.

Fourth. Inasmuch as all physiologic and reparative functions are more active in children than adults, repair after fracture is more rapid and complete in them, with very much less likelihood of non-union than in the older.

Fifth. While there may be more or less permanent deformity due to one factor or another, after all fractures, we find the late results after this injury in children are much more perfect than in adults.

FASTING STUDIES: 1. NITROGEN PARTITION AND PHYSIOLOGIC RESISTANCE AS INFLUENCED BY REPEATED FASTING.

PAUL E. HOWE and P. B. HAWK (*Journal American Chemical Society*, February, 1911, Vol. XXXIII, No. 2, p. 215).

A fox terrier bitch, about one year old and weighing 3.41 kilograms, was brought into nitrogen equilibrium and was subjected to two fasts. On the fifteenth day of the first fast the premortal rise in nitrogen output was noted and was accompanied by other signs indicating that death would result in a few hours. She was then carefully fed, and during the feeding period of forty-seven days regained her former weight and was again brought into nitrogen equilibrium, after which she was fasted a second time for a period of thirty days. The animal was in fully as good physical condition at the beginning of the second as she was at the commencement of the first fast.

The water ingestion was uniform (250 c.c.) throughout the feeding and fasting periods. The loss in body weight was nearly equal in each fast, being 45.75 per cent. for the first, and 46.04 per cent. for the second fast. However, on the fifteenth day of the second fast, *i. e.*, after a period equalling in length the entire fast, the animal had lost but 25.42 per cent. of her body weight.

From the data obtained we have shown that:—

(1) With a practically equal total nitrogen excretion the rate of this excretion was widely different in the two fasts, being high and rapidly increasing during the first fast of fifteen days, and low and fairly constant during the second fast of thirty days. A premortal rise occurred at the end of each fast.

(2) The absolute amount of urea excreted was in direct relation to the total nitrogen excretion. The relative urea-nitrogen excretion remained practically constant throughout the fasts, but increased with an increased total nitrogen excretion during the intermediate feeding period.

(3) The ammonia-nitrogen excretion remained fairly constant varying with the total nitrogen excretion in that when this was low the ammonia nitrogen was absolutely lower but relatively higher.

(4) The creatinin-nitrogen excretion decreased very uniformly and gradually as the fasts progressed, and increased uniformly and gradually during the intermediate feeding period. The total output of creatinin-nitrogen varied inversely as the length of the fast. On the nineteenth day of the feeding period, or at the time .34 per cent. of the body weight lost in the first fast, and one-fourth the nitrogen lost had been restored, the creatinin coefficient was nearly equal to that before the fast. Furthermore, on the twenty-fifth day, or at the time the animal had regained only 50 per cent. of its lost nitrogen and the body weight, the creatinin coefficient was the same as that secured before the fast, when the dog was of constant body weight and in nitrogen equilibrium.

(5) The total amount of creatinin nitrogen excreted was practically the same during each fast. The average daily amount of creatinin nitrogen, however, was nearly twice as great during the first fast as during the second fast.

(6) The allantoin and purine nitrogen excretions decreased as a result of the fast, and were practically equal.

(7) The undetermined nitrogen decreased as a result of fasting. The average daily amount of undetermined nitrogen in the second was one-half that in the first fast.

(8) A consideration of the summation of the nitrogen balances shows that there is a minimum amount of nitrogen which must be present in the body in order that life shall exist.

(9) The excretion of urinary creatin increased suddenly a few days before the drop in the total nitrogen excretion which precedes the premortal rise. From this time to the end of the fast the daily output of creatin nitrogen exceeded that of the creatinin nitrogen.

(10) Assuming the accuracy of the theory that the urinary creatin represents disintegrated muscular tissue and calculating accordingly, a discrepancy exists between the calculated mass of muscular tissue lost, when considered from the standpoint of total nitrogen and creatin nitrogen respectively. When all the facts in this connection are taken into considera-

tion it is apparent that over 50 per cent. of the total nitrogen had a source other than the muscular tissue.

(11) The creatin content of muscle showed a marked decrease (over 60 per cent.) as a result of fasting, while the nitrogen content of similar muscle was but slightly lowered. This pronounced decrease of creatin found by us in fasting muscle is a most significant fact and shows clearly that in fasting we cannot with accuracy consider the total amount of excreted creatin as resulting from the complete and permanent disintegration of muscular tissue. It appears that the creatin of the urine is derived either from disintegrating muscular tissue or is removed in some manner from such tissues which are still functioning within the body.

(12) As a result of our experiments we have shown that in repeated fasting there is a slower and less profound tissue disintegration during the second fast, indicating a greater resistance of the body, acquired as a result of the initial fast. This increased resistance noted in our experiments following fasting may indicate that the "repeated fast," if properly regulated, may possess important therapeutic properties. The greater length of the second fast could not have been due to increased fat stores, for the fat present in the body of the animal at the beginning of the second fast was, according to our calculations, only 59 grams more than at the beginning of the first fast. Fritz B. Talbot.—*Archives of Pediatrics.*

THE CHEMISTRY OF NEPHRITIS.

H. T. Karsner, Philadephia (*Journal A. M. A.*, May 20), discusses the chemistry of non-suppurative nephritis. After reviewing the normal metabolism of proteins, fats, carbohydrates and salts as regards the excretion of intermediate and end products by the kidneys, he takes up the metabolism, excretion and retention in acute and chronic nephritis. He finds that in the acute disease, especially in the early stage, the retention of protein products as shown by the nitrogen eliminated is very considerable. Later, however, if the amount of urine increases the nitrogen also increases and may be relatively excessive for a time, being apparently an attempt to get rid of the hitherto retained material. The sodium chlorid excretion is generally parallel to the nitrogen. In both forms of chronic nephritis the nitrogen elimination is variable, sometimes retention is followed by later excessive elimination. These variations cannot at present be definitely explained. Attempts to differentiate parenchymatous and interstitial nephritis by the use of phenolsulphonephthalein have not yet been sufficiently confirmed by autopsy findings to be considered final. Naturally, the amount of urea varies with the nitrogen. Uric acid and the purins show much less variation and the creatinin is also said to vary, though that is not definitely settled. Phosphates and sulphates are retained and eliminated parallel with the nitrogen output. The daily deviations of the chlorid output may be markedly in excess as before said or notably retained. The excretion of water by the kidney is of importance in this connection, as it aids in the excretion of solids. Of the abnormal constituents of nephritic urine, albumin is of most interest and importance. The forms found are especially serum-albumin, serum-globulin and nucleoprotein. As in normal conditions, the rule is that the albumin, with slight modifications, is that which has been ingested. Serum-albumin is almost always associated with globulin in the urine, and attempts have been made to give this fact diagnostic importance. This has failed, however, except possibly in the case of amyloid kidney, in which the amount of globulin is said to exceed that of serum-albumin. Nucleoprotein is of special significance in connection with acute nephritis and fever cases. Albumose has no direct bearing on nephritis, and when present represents a hydration of the urinary albumin morbidly present. Why the kidney is pervious to the serum-proteins in health and impervious to them in nephritis is still an open question. The uremia occurring is certainly a toxic condition, but the particular toxin is not yet accurately demonstrated, though claims have been made for various substances as the causative agent. Numerous recent writers assume that it is a specific lysin—a nephrolysin. It seems probable, however, according to the author, it must have a much higher degree of specificity than the experimental product obtained by immunization. If uremia is due to intestinal conditions, as has been suggested, no satisfactory evidence has been adduced to prove it. As regards edema of nephritis the hydremia and chlorid retention, which can be regulated by the diet, are specially of clinical importance. The chief point at present discussed, namely, whether the retention of chlorids or the retention of water is primary, remains an open question; one really seems to depend on the other in balancing the osmotic pressure. So little has been done in explaining the heart hypertrophy and vascular hypertension in nephritis, that they require little discussion. Granting that the internal secretion of the kidney is a problematic factor, we must turn to retained toxic substances or to the influence of other internal secretions, particularly that of the adrenal, for the explanation. The question, however, can hardly be regarded as settled, as investigations have produced contradictory results.

DIPHTHERITIC CONJUNCTIVITIS.

A case of conjunctivitis caused, as was determined microscopically, by the diphtheria bacillus, though no membrane was developed, is reported by H. Friedenwald, Baltimore (*Journal A. M. A.*, May 20). A membranous rhinitis and pharyngitis, smears from which showed diphtheritic bacilli identical with those from the eye, coexisted. The eye inflammation, while resembling that due to the Koch-Weeks bacillus or to pneumococci, differed clinically, especially at first, in the absence of mucous or purulent secretion, in the resistance to ordinary treatment, and in the appearance of minute spots along the intermarginal border. Later mixed infection occurred, as is not uncommon. The age of the patient, 56, is exceptional. Friedenwald thinks it probable that the eye was the primary seat of infection, as the nasal and pharyngeal symptoms came on several days after the appearance of the conjunctival disorder. He discusses the use of the term "diphtheritic" in the cases and thinks it should be retained.

CARBON MONOXID POISONING.

Angus McLean, Detroit (*Journal A. M. A.*, May 20), gives the history of a case of poisoning by burning gas, resulting in gangrene of both legs. The illuminating gas which was the cause was found to contain 7 per cent. of carbon monoxid. The case, he thinks, demonstrates that the effects of carbon monoxid poisoning are more far-reaching than has been

generally supposed and that, though recovery may apparently be complete in a few days or even a few weeks, startling and irreparable damage may have been done to the human tissue. In this case diabetic gangrene, chemical gangrene, senile gangrene and gangrene from exposure to extremes of temperature can all be excluded. Thrombotic and embolic gangrene can also be excluded in this case, as careful search for thrombi or emboli proved negative and the clinical picture did not suggest them. As to its having been an angioneurotic gangrene he can say but little, as he had no way of determining the existence of degenerative changes in the nervous system. He is inclined to attribute it to an altered nutritive property of the blood, the hemoglobin of the red cells being converted into carbon hemoglobin. While this explanation seems plausible to him, it cannot, of course, be definitely proved, but he is more and more convinced that it is likely to be correct.

BLOOD-PLATELETS.

J. H. Wright and R. Kinnicutt, Boston (*Journal A. M. A.*, May 20), recommend the following method for estimating the number of blood-platelets per cubic millimeter of blood for clinical purposes: "The blood is mixed with a diluting fluid in the proportion of 1 to 100 by means of the pipette used for counting red blood-corpuscles and the counting is done in an ordinary blood-counting chamber with a high-power dry objective. In order to render the platelets more clearly visible the specially thin cover-glass of Zeiss, with central excavation, is used. The diluting fluid consists of two parts of an aqueous solution of 'brilliant cresyl blue' (1 to 300) and three parts of an aqueous solution of potassium cyanid (1 to 1,400). These two solutions must be kept in separate bottles and mixed and filtered immediately before using. Of course, the pipette should be well shaken before withdrawing the sample for counting. After the counting chamber is filled it is left at rest for ten or fifteen minutes in order that the blood platelets may settle to the bottom of the chamber and be more easily and accurately counted. The platelets appear as sharply outlined, round or oval, or elongated, lilac-colored bodies, some of which form a part of small spheres or globules of hyaline, unstained substance." The red cells are decolorized and do not obscure the platelets. The nuclei of the white corpuscles are stained dark and the protoplasm light-blue. The cresyl blue solution is permanent, but should be kept on ice; the cyanid solution should be made up fresh at least every ten days. The platelet count of normal adult blood by this method varies from 226,000 to 367,000 per cubic millimeter, the general average being 297,000. The authors take up and answer objections to the method, especially that the blood-platelets would cling to the glass pipette, and compare their results with those of other methods. They have employed the method in a considerable number of diseases and found it of use in differentiating anemias and observing the effects on the number of blood-platelets of various disorders, such as typhoid and leukemia.

MAGIC FOOT DRAFTS.

This widely advertised fake rheumatism cure emanating from Jackson, Mich., is the subject of an article in the "Propaganda for Reform" department of *The Journal A. M. A.*, May 20. Attention is called to the fact that the men who exploit this humbug are also engaged in selling a consumption cure fraud as well as a pile cure. Magic Foot Drafts are plasters to be applied to the soles of the feet. The plaster mass has been analyzed by chemists on both sides of the Atlantic. Dr. L. F. Kebler, of the Bureau of Chemistry, reported the the composition of the plaster mass was:

Poke root	30 per cent.
Pine tar	62 per cent.
Cornmeal	8 per cent.

Dr. Kebler concluded that the Magic Foot Drafts "possess no curative element whatever, which when absorbed into the blood will neutralize the poisons which are supposed to be the cause of rheumatism and in this manner effect a cure." The chemist of the British Medical Association recently analyzed the plaster mass of the foot drafts and reported that their findings show the formula to be approximately:

Powdered white hellebore (Veratrum viride),	40 per cent.
Stockholm tar	60 per cent.

The British chemists estimated the cost of the ingredients for one pair as ⅓ of a cent. They sell for $1. *The Journal* in closing quotes Mr. Adams' characterization of the Magic Foot Drafts: "Affixed to the soles of the feet, they are advertised as drawing out the rheumatic poison from the whole system. Of course, they might as well be affixed to the barn door, so far as any uric acid extraction is concerned."

TUCKER'S ASTHMA CURE.

Tucker's Asthma Specific, which is designated "an insidiously dangerous cocain mixture," sold by a Dr. Nathan Tucker of Mt. Gilead, Ohio, is the subject of an article in the "Propaganda for Reform" department of *The Journal*, May 20. Many analyses have been made of this nostrum and the findings are in no two cases alike. As *The Journal* says, "In common with the nostrums of all kinds, its composition seems to change with the whim of the manufacturer." Although the composition is variable, one ingredient seems to have been found in every case, namely, cocain. The results of analyses published by Aufrecht, Anselmino, Dr. Vickery, the London *Lancet*, the United States Department of Agriculture and the chemists of the American Medical Association, are all given. *The Journal* comments on the prevalence of the cocain habit and especially on the mode of administration of this dangerous alkaloid, and it suggests that the various states should enact laws that will make the promiscuous distribution of cocain a penal offense.

Scarlet Fever, the Mode and Cause of Its Transmission and Spreading.—Dr. Jacob Sobel, (*New York Medical Journal*, Oct. 1, 1910). In an elaborate paper on the above subject the author arrives at the following conclusions:

1. He recommends that public instructions be given to mothers by public lectures or by articles in the daily papers concerning scarlet fever and its infectiousness. Severe cases may be the consequence of contact with very mild attacks.

2. Suspicious cases should be isolated and observed for at least 21 days.

3. Cases in people who directly or indirectly are employed in the milk business should be reported immediately.

4. All dogs and cats that are liable to come in contact with the patient should be removed and not allowed to be returned to the house, until they have been cleaned thoroughly in an antiseptic manner.

5. Class rooms should after the mere presence of a case, either erythematous or desquamative, be disinfected; all school or other books, toys, etc., with which the patient came in contact should be treated likewise.

6. There should be a blackboard in each class room with the names and addresses of all children in whose family there is danger of infection. A name should only be removed after the child had returned to school by permission of the physician.

7. Anointing of the body with petrolatum, lanoline or ichthyol ointment and frequent bathing in hot water during the period of desquamation will diminish the danger of infection.

8. There should be a disinfection of all infected rooms and all bed clothes.

9. Enlarged tonsils, adenoids, carious teeth, and catarrh of the naso-pharynx should be treated in time.

10. Any discharge from the ears, nose and throat is to be considered a source of infection. It should be removed with pledgets of cotton, which then should be destroyed by burning them.

11. Fresh air in the sick room, sunshine and moderate temperature are conditions which favor the neutralization of the scarlatinal poison.

12. Nobody should be vaccinated in a house infected with scarlet fever.

13. Strict measures should be taken to compel people to report all cases of scarlet fever.

14. Sufficient means for the employment of sanitary inspectors and disinfectors should be available in any community.—*Pediatrics*, April, 1911.

Sacro-iliac Strains.—After a consideration of the anatomy and the mechanics of the sacro-iliac joint Gordon Morrill states (*Cleveland Medical Journal*, Oct., 1910) that the most common causes of acute strains are in rising suddenly from a stooping position while lifting a heavy object or in suddenly putting the entire weight on one leg before the muscles holding the sacro-iliac joint have had time to contract as in stepping into a hole or slipping when lifting anything. With the female this is more apt to occur during the monthly periods as at these times the sacro-iliac joints naturally loosen. (He regards the periodic backache unnecessary to a great extent and has never seen a case that was not markedly benefitted by proper treatment.) For the treatment of sacro-iliac sprains he advocates adhesive plaster strapping to the back to hold the joints together until a proper fitting belt can be made. Later, exercises are indicated. Cases not responding to this simpler treatment require manipulation under ether and the application of a plaster of Paris jacket in normal lordosis carefully fitted to the pelvis so the joint will not slip out. Later a light spring back brace may be applied. Morrill calls attention to the sprains often received when patients are placed on an operating table and no provision is made to maintain the normal curve of the spine. A small pillow under the lumbar spine and a larger one under the knees will avert much subsequent discomfort and trouble from that source.—*Med. Review of Reviews.*

A Letter to a Doctor who is About to Enter the Road Which Leads to Quackery.

by William J. Robinson, M. D., New York.

President of The American Society of Medical Sociology.

Dear Doctor:—I do not know you. I have never met you. And still I am going to write to you. I do so as a matter of duty. To the

question: Am I my brother's keeper? I have always answered: Yes. And I see a young man starting on a wrong path, I try to warn him, to save him, if I can.

You have entered upon the wrong path, and I am sorry for you. And I urge you to turn back while there is yet time. I advise you to turn from the path of quackery, upon which you are, consciously or unconsciously, entering. I advise you to do so, not only for moral and ethical reasons, but because you yourself will in the end be the greatest sufferer. The man who never graduated from a medical college, the man who was never associated with the medical profession, the man who is an out-and-out quack, has no such scruples as you will be tortured by; he cares only for the money, and as long as he makes that he is satisfied. But you will suffer. When you see your professional colleagues turning away from you, when you see yourself avoided by even your personal medical friends, when you see yourself shut out from all medical societies, you will suffer. You may put up a bold front, you may try to make others and yourself believe that you do not care, that you do not give a rap for the approbation of your medical brethren, that their ostracism is nothing to you. But deep down in your soul you will feel that it is not so; you will feel that you are deceiving yourself as well as others; you will pass many sleepless nights, and your pillow will hear some heart-breaking confessions.

How do I know it? I know it because many of the better class of quacks made those confessions to me. One man, who has made a pile of money and who, in spite of his undoubtedly quackish methods, has many excellent qualities and humanitarian inclinations, confessed to me that he would willingly exchange the plaudits of fifty thousand laymen for the approbation of one reputable medical man.

Of course, I know what you will say. You will say that you are knocking the medical profession, and going to the laity, because the medical profession is narrow, bigoted, commercialized, and so forth. I am even willing to believe that that is your real reason for leaving the profession, and not the fact that in the ordinary ethical practice of your profession you were unable to make a satisfactory living. But, still I would ask you to ask yourself this question: Would I have left the path of regular ethical medicine if in following it I had been making five or ten thousand dollars a year? I fear your answer would be in the negative.

But, assuming that it is so, that the profession is narrow, commercialized, etc., is it not your duty to stay on the inside and fight this narrowness and commercialism, and other abuses which have crept in the profession? Don't tell me that you cannot do it and still remain within the profession. For it is not so. I myself am the proof of it. Nobody has on occasions criticized the shortcomings of our profession more severely than I have. *The Critic and Guide* was organized for the distinct purpose of criticizing the abuses and faults of the medical and pharmaceutical professions. But while some narrow bigots did not like my criticizing, this did not put me out of the pale of the profession. I stayed right in, fought as hard as I knew how, and with the result that it was I, and not the bigots, that carried off the victory. It is not I that became narrower, it is the bigots who became broader—or retired into solitude.

Don't you see that by leaving the profession—for the path you are entering upon means essentially this—you render yourself entirely impotent for any good? Even the laity will cease to listen to you as soon as they find out that by the regular profession you are considered a quack. And what's more, when they want a doctor, they will consult a regular physician. Finding yourself forsaken by the profession and by the laity, you may want to turn back to the former, but you may find the portals shut. For our profession is a jealous profession and is not lenient towards transgressors.

The medical profession, that is, a part of it, for to accuse the entire profession would be wrong, may be narrow and commercialized. No profession can help being affected by the tendencies of our times, by the influence of our social and economic conditions. But a profession that counts among its members a Hippocrates, a Galen, a Harvey, a Servetus, a Vesalius, a Paré, a Maimonides, a Louis, a Trousseau, a Fournier, a Graefe, a Virchow, a Müller, a von Helmholz, a Gerhardt, a Billroth, an Ehrlich, an Osler and a Jacobi, is a pretty good profession to belong to.

Don't you think so?

Or do you perhaps think that the company of old "Dr." Grindle and "Dr." Gray and "Dr." Tilden and "Prof." Samuels and Mr. McFad-

den is preferable? If so, I have nothing to say.

Chacun a son gout.

Still fraternally yours,

WILLIAM J. ROBINSON.

THE SERIOUS NATURE OF MUMPS: A WARNING.

Dr. Sidney J. Meyers of Louisville, Kentucky, read an important paper on parotitis before the Medico-Chirurgical Society, which is published in *The Louisville Monthly Journal of Medicine and Surgery* for July, 1910. The doctor points out that mumps, or epidemic parotitis, is undoubtedly an infectious disease, caused by a microorganism, not as yet isolated, which by its own presence or by the toxins it produces, or by both, gives rise to disease. A foreign material is sent through the blood stream or lymph-channels, and therefore mumps is something more than the mere local manifestation of an enlarged parotid gland. While it is generally a mild infectious disease, sometimes complications arise, placing a rather grave aspect on our cases.

Dr. Meyers then describes several cases in which severe fever and illness were produced by toxemia and in which the entire organism of the patient was seriously affected.

In the discussion, Dr. A. M. Vance voiced the opinion that many of the atrophied ovaries we meet with are due to the "going down" of mumps, just as it goes to the testicle in the male. Time and again he has quizzed the family in such cases and has frequently found a clear history of mumps in babyhood or childhood.

It is very important that we should impress the parents of our little patients with the grave possibilities of this disease, which all too often is referred to as "just mumps," and is as Dr. Meyers points out, very often treated "over the phone, or in the office without seeing the patient." Such a haphazard and slipshod practice is little short of criminal and is, in the event of complications, first of all resented by the parents, although they may have been adverse to calling the doctor and incurring any expenses on a case of "just mumps."

Being due to bacterial infection, parotitis is capable of producing severe intoxication and metastasis to distant parts. These should be prevented by the usual methods of cleaning out and keeping clean, and by full doses of calcium sulphide to saturation. Nuclein in large doses (20 drops twice daily on an empty stomach) will assist the body in combating the infection. Locally the greatest cleanliness is required, especially in the oral cavity, lest the infection extend into the eustachian tube or in other directions. It goes without saying that patients ill with mumps should be isolated, because it is utterly foolish to let other children take the disease so as "to have it over with," as the saying is.—*Exchange.*

PREGNANCY IN A RUDIMENTARY HORN OF A BICORNUATE UTERUS.—Willett (Proceedings of Royal Society of Medicine) reports a case of a primigravida, æt. 19, admitted into St. Bartholomew's Hospital, suffering from intense abdominal pain and collapse. Menstruation was normal and regular till five months previously, since when it had been absent. The patient was in perfect health till she was seized with sudden intense abdominal pain, so severe as to cause her to faint when walking in the street. She was brought into the hospital in this condition by the police. On admission she was intensely anemic, with all the signs and symptoms of severe internal hemorrhage. The abdomen was distended and very tender with shifting dullness in both flanks. A centrally situated tumor rising two inches above the navel was found, in which fetal parts could be distinguished. Per vaginam nothing abnormal palpable; no blood found in the vagina. The patient died 15 minutes after admission. Autopsy: all organs anemic, otherwise healthy. The uterus was enlarged to about the size of a 2½ months' gestation. The left appendages were normal. On the right side was a gestation sac, the upper part of which had gradually thinned and permitted the escape of the fetus in its membranes. On the inner aspect of the rent the placenta was seen, which was covered with adherent blood-clot and evidently the source of the hemorrhage. The giving way of the sac appeared to have been a gradual process, as a strand of omentum was adherent to the rent. The fetus was of about five months' gestation. From the relation of the round and ovarian ligaments to the gestation sac it was plain that the pregnancy was in the rudimentary horn of a bicornuate uterus. No communication existed between the uterus and the gestation sac.

Gall-bladder Surgery.—Jenckel in the Zeitsch. f. Chir. reports a series of interesting observations from the Surgical Clinic of Gottingen. Cystectomy gave the best results in hydrops and empyema of the gall-bladder, the operation being done fourteen times in twenty-two cases of the former, twenty-six cases of the latter. In the calculous obstruction of the common duct, choledochotomy, with drainage of the hepatic duct, was ordinarily employed. Of twenty-four cases operated upon for this condition only one terminated fatally. The operative statistics of cancer of the biliary passages were very unfavorable. Of thirty-two cases, five died immediately after operation and twenty-seven shortly thereafter.—*Exchange.*

Surgery of the Blood-Vessels.—Dr. Kruger (*Archiv. f. Klin. Chir.*) from a study of 46 cases of injury and disease of the peripheral blood-vessels treated in the Surgical Clinic of Jena during the last twenty years, concludes that in general the results of ligature have been fully equal to those obtained in more recent years by suture. In 23 cases in which suture might have been feasible, there were 17 cures, while in 6 gangrene occurred, necessitating amputation of the extremity. Nothing better could have been expected from suture.—*Exchange.*

Cysts of the Cerebellum.—Williamson (*Rev. of Neur. and Psych.*) collects a number of published cases. He points out that Horsley gives the operation mortality as 1 in 10 in cerebellar tumors, and as 1 in 27 in motor area operations. Two points are clearly in favor of operations:—(1) Craniectomy in the region of the cerebellum relieves tension, and even if no attempt be made to remove the tumor, this palliative treatment is often followed by relief of the most distressing symptoms. The headache often diminishes or disappears, the optic neuritis subsides and vision often improves. (2) The lesion may be found to be a cyst, and surgical treatment then has usually excellent results. The writer states the chances of finding that the lesion is a cyst is at least 1 in 20.

Syphilis and the American Negro.—Dr. T. W. Murrell points out in the *Jour. Am. Med. Assn.* (Mch. 12, 1910) that the negro problem is no longer local to the South; it is growing every day more national. If the healthy negro is a political menace, the diseased negro is doubly a social menace; the Southern invasion of forty years ago by the North is being followed by a northward invasion, and by the men who were freed by the North. The negroes of Southern birth living in the North have increased twice as fast as the negro population of the country; in 1900 one twenty-fourth of the whole negro population lived in the North. Murrell considers that the future of the negro lies more in the research laboratories than in the schools. The negro of 1859 was a fixed type, and men could plan with this type as a basis; the negro of 1889 was a different type, and the negro of to-day is another. Fifty years more will, no doubt, bring another type more puzzling than its predecessors, and then the problem will be a new one, with the experience of the past, but with little help to solve it.—*Medical Times.*

Diagnostic Importance of Anaphylaxis from Gastric Juice.—Livierato found that gastric juice from normal persons had no toxic action when injected under the dura of guinea-pigs, even in doses of 1 c. c. On the other hand gastric juice from patients with cancer of the stomach proved rapidly fatal even in one-tenth of this amount, symptoms following when over 0.05 c. c. was injected. By preparing the animals beforehand with injections of minute doses of aqueous extract of mammary carcinoma and then injecting the minimal dose, 0.05 c. c., phenomena of anaphylaxis were observed at once when the gastric juice came from a cancer patient, but not with gastric juice from patients with ulcer or any form of non-malignant disease. These phenomena of anaphylaxis may serve to differentiate gastric cancer, he remarks, besides throwing light on the general biology of cancer. The anaphylaxis was observed in animals prepared only twenty-four hours before the test.—*Kentucky Med. Jour.*

Transillumination of the Eye.—Langenhan has been applying Hertzells method of transillumination of the fundus from the throat outward, and found it very useful for the early diagnosis of intraocular tumors of the rear segment of the eyeball. It is especially valuable

for differentiating such from serous accumulations under the retina.—*Berliner Klinis Ke Wochenschrift.—Ky. Med. Journal.*

Brain Syphilis in the Secondary Stage.—Lohe gives the details of two cases of cerebral disturbances, in the first, coming on only three months after syphilitic infection, receiving prompt and energetic mercurial treatment but proving rapidly fatal from arterial disease and incipient meningitis. In the second case initial sclerosis and hemiplegia were noted only twenty-four days after infection, but they yielded to calomel. Both patients were robust soldiers of 28 and 31. The cerebrospinal fluid in each case gave a Wasserman reaction, while the serum was strongly positive.—*Kentucky Med. Journal.*

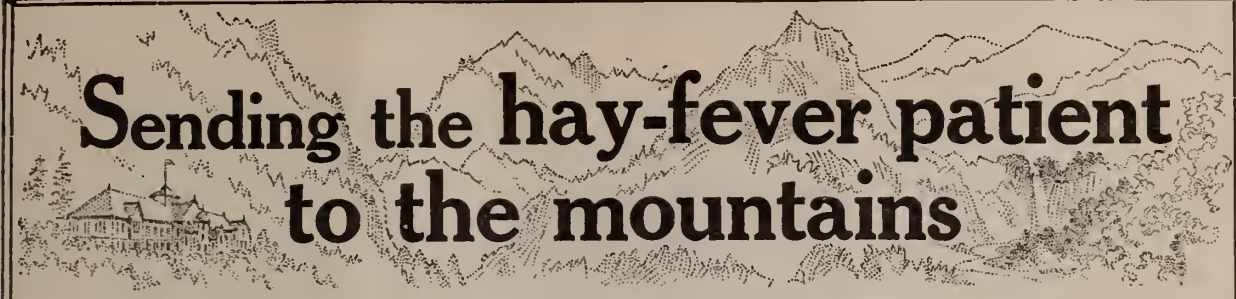
Origin of Pellagra.—Among the arguments presented by Alessandrini to sustain his theory of the cause of pellagra are that the seashore and mountainous regions are exempt, and that the disease ceases to spread when artesian wells are installed to take the place of shallow wells and surface drinking water. In the Gualdo Tadino district the endemic zone is distinctly separated from the immune territory by the course of two streams, but the number of cases is no larger close to the streams than elsewhere throughout the epidemic zone.—*Kentucky Med. Journal.*

Ocular Migraine and Frontal Sinusitis.—In the case described by Oertel there was a chronic catarrhal inflammation of the right frontal sinus entailing periodical attacks of intense migraine, as the secretions accumulated and compressed the nerve terminals in the orbit. Notwithstanding the long duration of the sinusitis there was no pus. The case teaches the importance of examination of the nose and sinuses even with purely functional affections of the eye.—*Kentucky Med. Journal.*

The Value of Serums and Vaccines in the Treatment of Disease.—Raw, in *The British Medical Journal*, deals with this question with reference to acquired immunity and then takes up in turn the antistreptococcic sera as used in puerperal septicemia, erysipelas, malignant endocarditis, acute tonsilitis, diphtheria, tetanus, tuberculosis, and then speaks of the use of vaccines from human sources for tuberculosis, pneumonia, staphylococcic infections, Coley's fluid and typhoid fever. The writer believes that the vaccine treatment of the latter disease, in which Wright was a pioneer, is more a prophylactic than a curative measure. The best results are obtained in staphylococcic infections. The writer believes that vaccines do good in pneumonia, but the evidence is still small. In regard to tuberculin from human sources the author has used the T. R. in 110 cases, including tuberculous glands in the neck, tuberculous peritonitis, tuberculous joints and sinuses, lupus, tuberculous meningitis, and genitourinary tuberculosis. In the localized forms of the disease, most of which he believes to be of bovine origin and conveyed to children in infected milk, he is convinced that the T. R. has an excellent effect except in those patients in whom there is some pus encysted in the body, whether in the interior of the joint or in a bone under pressure, or as an abscess in a lymphatic gland. In these cases there is a danger of tuberculin causing dissemination of the bacilli, with a resultant blood stream infection. It is a good rule never to give tuberculin if any pus is localized in the body. In many cases a course of tuberculin has had the effect of greatly reducing enlarged tuberculous glands of the neck, by dispersing the periadenoid tissue and causing a general freeing and loosening of the glands themselves, while in some the enlarged glands have entirely disappeared. If, however, there is any tendency to suppuration the glands must be opened, and in all cases the pus should be liberated. The author is convinced that the extensive dissection of glands in the neck is wrong in principle, and sometimes leads to a general tuberculosis which is fatal. In tuberculous peritonitis tuberculin has a splendid effect, and, combined with operation and drainage, many patients have been completely cured. In genitourinary tuberculosis ten or twelve injections of tuberculin have often had an excellent healing effect when everything else has failed.

Colchicine in Gout.

According to "Merck's Annual Report" for 1909, Martinet regards colchicine as the best remedy for the relief of pain in gout, and that there is no medicinal substitute for this agent. —*Am. Jour. Clinical Medicine.*



Sending the hay-fever patient to the mountains

is all very well—if he has wealth; if he has leisure. There's the rub! Wealth, to most of us, is a dream; leisure, a luxury. The average individual must remain at his post of duty. If he has hay fever he must fight it out there"—if it takes all summer."

THE BEST MODE OF TREATMENT IS WITH ADRENALIN.

This preparation, in the forms listed below, offers to the medical profession its most efficient palliative in hay fever. Better than any other agent, it controls the nasal discharge, allays the congestion of the mucous membrane, and reduces the swelling of the turbinal tissue. It tends to restore natural breathing, abates the desire to sneeze, and in general induces comfort.

THESE ARE THE PREPARATIONS COMMONLY USED.

Solution Adrenalin Chloride

Adrenalin Chloride, 1 part;
physiological salt solution (with 0.5% Chloretone), 1000 parts.

Dilute with four to five times its volume of physiological salt solution and spray into the nares and pharynx. (Ounce glass-stoppered bottles.)

Adrenalin Inhalant

Adrenalin Chloride, 1 part;
an aromatized neutral oil base (with 3% Chloretone), 1000 parts.

Dilute with three to four times its volume of olive oil and administer in the manner described above. (Ounce glass-stoppered bottles.)

NOTE.—We also supply **ADRENALIN OINTMENT** and **ADRENALIN AND CHLORETONE OINTMENT** (collapsible tubes, with elongated nozzles), both successfully used in the treatment of hay fever.

Anesthone Cream

(Formula of Dr. J. E. Alberts, The Hague, Holland.)

Adrenalin Chloride, 1:20,000;
Para-amido-ethyl-benzoate, 10%; in a bland oleaginous base.

A small quantity (about the size of a pea) is applied three or four times a day, the patient snuffing it well into the nostrils.

Anesthone Cream was used with marked success during the hay-fever season of 1910. The fact that it affords relief which continues for several hours in many cases is worthy of consideration when one remembers the fleeting character of most local anesthetics. (Collapsible tubes with elongated nozzles.)

NOTE.—We also supply **ANESTHONE TAPE** (likewise useful in hay fever), a selvage-edge tape, one-half inch wide, impregnated with a 1:20,000 solution of Adrenalin Chloride and 5% soluble salt of Para-amido-ethyl-benzoate, agreeably perfumed. A piece two or three inches long is cut off and inserted in each nostril. (Small vials.)

OUR GLASEPTIC NEBULIZER

is an admirable instrument for spraying the Adrenalin solutions. It produces a fine spray and is suited to oils of all densities, as well as aqueous, spirituous and etherial liquids. The working parts are *one piece of glass.* Complete, with throat-piece, $1.25.

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THERAPEUTIC NOTES.

The Declension of Bodily Vigor.—In the declension of bodily vigor, before instituting measures whose object is to overcome the decline, the chief aim should be to determine with exactness the cause. In the large majority of cases, the cause ascertained, the need for a reconstructive will be plain. The blood will be found to be in need of corpuscular elements, the tissues in general will be in need of a serviceable nutrient. Cod liver oil in the form of a palatable and easily assimilated cordial such as Cord. Ext. Ol. Morrhuae Comp. (Hagee) will meet the every requirement of a patient showing evidences of bodily decline. Not alone do the nutritious qualities of Cord. Ext. Ol. Morrhuae Comp. (Hagee) give it preeminent value, but its palatability and the ease of its digestion augment in a considerable degree its therapeutic worth.

Tissue Foods in Hot Weather.—The need for tissue foods during the hot months may not be so urgent as during the winter season, but when it is present, the physician is sometimes hard pressed to choose a suitable product, especially so since many of those commonly employed give rise to gastric distress. In NUTROMUL, an emulsion of cotton seed oil, the physician will find a tissue food of positive merit and one that will agree with the patient during the hottest weather. Cotton seed oil is a nutrient of the greatest food value, containing more convertible nourishment than any other product at the profession's command and has the added advantages of ease of assimilation and freedom from gastric irritation. Physicians using NUTROMUL in all wasting states will be gratified at the results obtained. Samples may be secured by writing the manufacturers, The Nottoc Laboratory, Atlanta, Georgia.

Nervous Irritability and Sleeplessness.—To soothe nerve irritability without resorting to dangerous or habit-forming drugs, is a daily problem for the doctor to solve. In the administration of PASSIFLORA INCARNATA (Daniel's Concentrated Tincture) he will find the simplest solution of this problem. Daniel's Passiflora will demonstrate its nerve tranquilizing properties and its freedom from depressing after-effects. It is the most potent and satisfactory calmative which the physician can use. In sleeplessness, from whatever cause, Daniel's PASSIFLORA INCARNATA will bring about a deep, restful sleep, from which the patient awakens refreshed and with none of the disagreeable effects so noticeable following the administration of chloral or the bromides. A sample will be furnished if application be made to the Laboratory of John B. Daniel, Atlanta, Ga.

Summer Cases.—Conditions peculiar to the season now with us will present themselves for your consideration and a reference to the fact that Antiphlogistine has proven of particular service in Sunburn, Bee Stings, Insect Bites, Sprains, Bruises, etc., will offer you a ready and satisfactory dressing and is procurable in all drug stores.

In those severe cases of Dermatitis following undue exposure to the sun's ray, Antiphlogistine will quickly reduce the inflammation and the accompanying swelling and pain.

In all cases it should be applied thick and hot and well protected by ample covering.

Again the Hay-Fever Problem.—Whatever else happens, or fails to happen, here is something that always bobs up at the appointed time. Taxes are not more certain and insistent. Sooner or later every physician has this problem to solve. The trouble is, it doesn't stay solved. The long-looked for hay-fever specific has not yet arrived.

Undoubtedly the most successful way to treat hay fever is to send the patient where he will not be exposed to the particular pollen to which he may be susceptible—to prescribe a sea-voyage, for instance, or a change of climate. In this manner temporary immunity, at least, is obtainable. Unfortunately, very few patients, comparatively, have at their disposal the necessary time and means for travel. In nineteen cases out of twenty the physician must fight the intractable disease with such weapons as pharmacology and pharmacy have placed in his hands.

Of the remedial agents in the possession of the medical profession the suprarenal substance has proved itself by far the most efficient. While not attaining to the dignity of a specific, it is at least a satisfactory palliative. It successfully antagonizes the symptoms of the disorder and gives the patient a temporary comfort that is not to be despised. It is probably best used in the forms of Adrenalin Chloride Solution, Adrenalin Inhalant, and Anesthone Cream.

The two preparations first named—the former diluted with four to five times its volume of physiological salt solution, the latter with three or four times its volume of olive oil—are sprayed into the nares and pharynx. Any good atomizer that is adapted to oily or aqueous liquids (preferably, however, one that throws a fine spray) may be used. As to the comparative value of the preparations for the purpose named, it may be said that the Solution "takes hold" more promptly, while the astringent effect of the Inhalant is more lasting.

Anesthone Cream is a much newer product, having been introduced to the profession, if we mistake not, in the early months of 1910. Nevertheless it made a great record for itself during the hay-fever season of last year. Few medicinal preparations, indeed, make their debut so auspiciously. The formula came from a prominent practitioner of The Hague, Holland, and combines Adrenalin Chloride and Para-amido-ethyl-benzoate in a bland oil base. Right here some reader may inquire: "What is Para-amido-ethyl-benzoate?" Ask Parke, Davis & Co. They have printed matter which answers this very question. Write for it. Write the company, too, for its literature on hay-fever, addressing your request to the home offices in Detroit, Mich., and mentioning this journal. You will get some useful and interesting information.

When a Tonic is Needed.—When a tonic is needed, there is none that will give more certain or uniform satisfaction than Gray's Glycerine Tonic Comp. For seventeen years it has been serving the profession, and the esteem in which it is held today bears eloquent witness to its unvarying quality and efficiency.


GLYCO=THYMOLINE
PROPHYLAXIS—The very nature of artificial foods and cow's milk predisposes to their rapid decomposition. A few drops of Glyco Thymoline added to each feeding corrects acidity and prevents disorders of stomach and intestines.
TREATMENT—As an adjunct to your treatment of summer complaints, Glyco-Thymoline used internally and by enema corrects hyperacid conditions. stops excessive fermentation and prevents auto intoxication. It is soothing—alkaline—nontoxic.
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CLINICAL EXPERIENCE IS ALWAYS A DEPENDABLE GUIDE.—Countless physicians the country over have proven to their entire satisfaction that Gray's Glycerine Tonic Comp. fills an indispensable place in the treatment of all diseases in which lessened vitality is a prominent feature. It represents one of the notable advances in modern pharmacy, and many a practitioner has learned to rely upon it as his most valuable aid in increasing functional activity. Gray's Glycerine Tonic Comp. exerts an especially beneficial influence on the gastric and intestinal glands, thus stimulating the appetite, improving digestion and promoting assimilation. In all conditions of mental and physical exhaustion accompanied by malnutrition its effects are speedily manifested by an increase in functional vigor and a general improvement in the health of the whole body. Physicians who are not using Gray's Glycerine Tonic Comp. in their cases of general debility are urged to do so and note what really remarkable results they can obtain.

THE SECOND SUMMER.—Experience has shown that during the second or "teething summer" weakened stomachs are strengthened, faulty metabolism is corrected, fatigued heart and circulation is supported, and many a tired, wornout nervous system is restored to its proper tone by the systemic and intelligent use of small doses, 20-30 drops, according to age, of Gray's Glycerine Tonic Comp.

MODERN MARTIAL THERAPY.—Amid the veritable swarm of new medicinal agents of all varieties that have been introduced to the therapist during the last twenty years, and in spite of the great advances in general medicine during the same period, there has not as yet been proposed any remedy which can successfully compete with iron in the treatment of anemic and generally devitalized conditions. This metallic element, in one form or another, is still the sheet anchor in such cases, and when intelligently administered in proper form and dosage can be depended upon to bring about marked improvement, provided serious incurable organic disease is not the operative cause of the existing blood impoverishment. The form in which to administer iron is, however, very important. The old, irritant, astringent martial medication has had its day, and properly so. Probably the most generally acceptable of all iron products is Pepto-Mangan (Gude), an organic combination of iron and manganese with assimilable peptones. This preparation is palatable, readily tolerable, promptly absorbable, non-irritant and still distinctly potent as a blood builder and general tonic and reconstructive.

THE "CITY" ANEMIC.—The hard hum-drum city life, especially of those whose days are spent indoors, in offices, bending over desks, ledgers, and school books, is almost certain, sooner or later, to leave its traces upon the man, woman or child thus unfortunately situated. General sluggishness of metabolism, due to indoor confinement in a vitiated atmosphere, and lack of exercise, is followed by failing appetite and later by degenerative blood changes of anemic nature. While Pepto-Mangan (Gude) cannot, of course, remedy the cause of the anemia and general devitalization, it almost always assists materially in overcoming the anemic blood state, increases appetite and acts as a real tonic and general reconstructive. As Pepto-Mangan (Gude) is free from irritant effect upon digestion, it is readily borne and quickly absorbed and assimilated, and as it is non-astringent it does not cause or increase constipation.

IF THE STOMACH WERE A SACK.—If the stomach were a sack into which uncooked food and nauseous drugs might be thrown and be digested and absorbed into the system—then there could be no objection to plain crude cod liver oil. The stomach would use it just as it would the uncooked food. But since the stomach is not a sack, but happens to be a delicate organ which will resent harsh treatment, uncooked food, nauseous drugs and plain crude cod liver oil are not good for it and against them it rebels. Our common sense warns against uncooked food; deference to the patient's taste guards against the administration of disagreeable drugs, and the manufacturing chemist has made it possible to give cod liver oil in palatable form. Hagee's Cordial of the Extract of Cod Liver Oil Compound is the most efficient and palatable of the cod liver oil preparations and its great value as a tissue food has won for it wide use at the hands of physicians.

THE TEST OF A TONIC.

The field and function of a systemic tonic is generally understood and appreciated by both physician and patient. To stimulate, whip or goad the vital processes is not to "tone," but, on the contrary, to ultimately depress. A real tonic is not a mere "pick-me-up," but some agent that adds genuine strength, force and vigor to the organism. The genuine tonic is a builder or reconstructor of both blood and tissue. Any agent which will increase the power of the blood to carry and distribute the life-giving oxygen is a tonic in the best and truest sense of the word. Iron in some form is an ideal tonic, as it builds up the vital red cells of the blood and the hemoglobin which is their essential oxygen-carrying element. Of all forms of iron, none is quite as generally acceptable and readily tolerable and assimilable as Pepto-Mangan (Gude). It creates appetite, tones up the absorbents, builds the blood, and thus is a real tonic and reconstructive of high order. It is especially desirable because of its freedom from irritant properties, and because it never causes a constipated habit.

THE TREATMENT OF HYDROPHOBIA BY RABIES VACCINE.—Until recently, it has been necessary to send patients exposed to hydrophobia to a Pasteur Institute (in many instances located in a far distant city) for prophylactic treatment. The Hygienic Laboratory of the United States Marine Hospital Service devised a method of administering Rabies Vaccine, whereby it could be prepared at a central laboratory, according to Pasteur's method, and distributed to any part of the United States, allowing the patient to be treated by his attending physician.

Briefly, the following is Pasteur's method for preparing Rabies Vaccine: The spinal cord of a rabbit—dead of rabies as result of an injection of a "fixed virus"—(Rabies Vaccine known to kill within a fixed time) is removed under aseptic conditions. A cord containing the Rabies Virus is suspended over a layer of potassium hydroxide and kept at a temperature of

22 degrees C. from one to eight days. The virus is gradually weakened or attenuated as the cord is dried, the strength being decreased in direct proportion to the extent of the drying.

In the preparation of each injection, a portion of a cord in which the virus has been properly attenuated by drying the requisite number of days, is taken and emulsified by grinding under aseptic conditions with a weak solution of glycerin. The emulsion of Rabies Virus thus prepared constitutes the first dose.

The second dose is prepared in the same manner from a portion of the cord which has not been attenuated to the same degree, and each subsequent dose is prepared in like manner from cords containing virus of increasing potency.

The technique of the administration is quite as simple and safe as the ordinary hypodermatic injection.

H. K. Mulford Company have built and equipped special laboratories at Glenolden, Pa., and under the personal direction of expert bacteriologists are preparing Rabies Vaccine after the method of Pasteur.

The Rabies Preventive Treatment.—The preventive treatment of rabies, as furnished by the H. K. Mulford Company consists of 25 injections of Rabies Vaccine, the strength of each injection varying in accordance with the plan of treatment adopted by the Hygienic Laboratory of the United States Marine Hospital Service.

Cords with virus of various strengths are kept in constant readiness for preparation of Rabies Vaccine to meet all emergencies.

The Vaccine is furnished in ampuls and all the physician is required to do in making the injection is to mix the Vaccine in the ampul through a special needle, furnished with each syringe, with the physiologic salt solution contained in each syringe, then inject the patient. The technique is as simple as an ordinary hypodermatic injection.

Special Caloris Vacuum Bottles are used in the shipment of each day's supply of Vaccine, insuring its receipt in a satisfactory condition.

Preventive treatment by Rabies Vaccine should be started as soon after exposure as possible. After symptoms have fully developed there is no hope for relief, as a cure for hydrophobia has not been discovered. The period from the exposure to the development of the symptoms of hydrophobia is known as the period of incubation. This varies from eight days to six months under natural conditions, although occasionally cases are reported where the incubation period is much longer.

Immediately following exposure, every precaution should be employed until it is proven that the suspected animal did or did not have rabies. Aside from cauterizing and otherwise treating the wounds, arrangements should be made at once for the use of Rabies Vaccine in the form of preventive treatment prepared after the method of Pasteur.

If the animal responsible for the wound or infection, is alive, it should be kept securely under observation for at least two weeks. Infection may follow from the bite of an animal apparently normal at the time of biting. Not until it is definitely known that the animal has rabies should it be killed. After the animal is dead, its head should be removed and sent to a State or Municipal laboratory equipped to properly examine the brain for evidences of rabies.

If proper precautions are taken and the patient immediately given the Pasteur treatment, the fatality from this terrible disease may be virtually reduced to a minimum.



According to statistics rabies is more common in the summer months, therefore at this season of the year, with danger of mad dogs running amuck, the method of supplying Rabies Vaccine so that the physician may administer it to his own patients, is of particular interest to our readers.

Full and complete literature on Rabies Vaccine will be mailed by H. K. Mulford Company of Philadelphia, upon request.

Explanation of Increase in Prison Population.

Accordingly the marked increase in prison population, and especially in commitments, does not reflect an increase in crime but is largely accounted for by this difference in the scope of the two censuses.

The Census Bureau will be able later to segregate from the 1910 figures the cases of imprisonment for non-payment of fine and thereby obtain a figure which will be fairly comparable with the enumeration of six years ago. The larger number of admissions reported, as com-

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pared with the population present on January 1, is indicative of the fact that a large proportion of the commitments are for short sentences and for minor offenses. In the final census report the prisoners will be classified with reference to the offense for which sentenced and the term of sentence imposed.

The number of juvenile delinquents reported at the census of 1910 in institutions for that class was 22,903. This differs but little from the number reported in 1904, which was 23,034.

The number of paupers in almshouses on January 1, 1910, was 83,944. The number admitted during the year 1910 was 106,457, and the number discharged or dying during that year was 100,858. In 1904 the pauper population was 81,764 at the beginning of the year; the admissions during the year were 81,412; and the discharges or deaths 77,886.

Striking Increase of Insane Population.

The enumeration of the insane in asylums indicated a very striking increase in this class of the population. In 1904 the number of insane in institutions was 150,151. In 1910 this number had increased to 184,123, an increase of 22.6 per cent in six years. The number of commitments to insane asylums during the year 1904 was 49,622, and during the year 1910 was 59,628, an increase of 20.2 per cent.

In 1904 the feeble-minded in institutions numbered 14,347; in 1910 the number was 20,199. The number of commitments to institutions for this class increased from 2,599 in 1904 to 3,848 in 1910.

Remote Symptoms from Intestinal Irritation in Infants and Children.—(*New York State Med. Journ.*, Mar., 1910). Frost points out that intestinal intoxication and irritation is an important etiological factor in many apparently remote symptoms. Certain minor psychoses may occur as a result of this in children who, from heredity or minor psychoses are of unstable nervous mechanism. Among these are included 12 cases of pica, four of pseudo masturbation, many cases of nail biting and numerous other so-called bad habits, such as enuresis, fecal incontinence, squints, head-nodding, etc. These cases he considers a parallel

CATALOGUES

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to the hysterias of later life. Cyclic and tetany vomiting he also includes within this group of neuroses due to intestinal disturbance. He found casts and albumin in the urine of many of the more acute cases. Of affections of the skin which he ascribes to this condition are angio-neurotic edema, eczema, erythema nodosum, urticaria, pruritis, etc. He calls attention to the frequency of pharyngitis occurring in these children.

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RUST.

Rust, like dirt, is a bad thing when it gets out of its place. A rusty scalpel or hypodermic syringe does not speak well for the doctor. Rusty accounts are likewise bad. It is better to have smaller bills and not let them get rusty. Our brains all get rusty if we don't keep them polished up. Let's try to obviate rust all along the line.—*Tex. Med. News.*

THE FAMILIES OF THE UNFIT.—Dr. Sinclair, Prison Surgeon at Barlinnie, Scotland, writes in the *Glasgow Medical Journal* for January on the unfit and their procreative tendencies as compared with normal individuals. The doctor's researches bear out the impression commonly held regarding the strong sexual proclivities of the unfit. He found the average number of children in a normal family to be four, and in a degenerate family seven. The percentage of illegitimate children given birth to by feeble-minded women considerably exceeds the percentage of illegitimate births of the rest of the whole population.

A friend of ours stated that under present economic conditions one may almost say that the bearing of seven children is prima facie evidence of feeble-mindedness on the part of one or both members of a matrimonial partnership. Of course nobody would take such a statement seriously, but one cannot deny that the responsibility of bringing a large family into the world is a grave one.—*Medical Review of Reviews,* May, 1911.

A Delightful Revelation.

¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

¶ It is the same pleasant, gentle laxative, however, which for many years past physicians have entrusted to domestic use because of its non-irritant and non-debilitating character, its wide range of usefulness and its freedom from every objectionable quality. It is well and generally known that the component parts of Syrup of Figs and Elixir of Senna are as follows:—

Syrup of Californian Figs ..... 75 parts
Aromatic Elixir of Senna, manufactured by our original method, known to the California Fig Syrup Company only ..... 25 parts

¶ Its production satisfied the demand of the profession for an elegant pharmaceutical laxative of agreeable quality and high standard, and it is, therefore, a scientific accomplishment of value, as our method ensures that perfect purity and uniformity of product required by the careful physician. It is a laxative which physicians may sanction for family use because its constituents are known to the profession and the remedy itself proven to be prompt and reliable in its action, acceptable to the taste and never followed by the slightest debilitation.

ITS ETHICAL CHARACTER.

¶ Syrup of Figs and Elixir of Senna is an ethical proprietary remedy and has been mentioned favorably, as a laxative, in the medical literature of the age, by some of the most eminent living authorities. The method of manufacture is known to us only, but we have always informed the profession fully, as to its component parts. It is, therefore, not a secret remedy, and we make no empirical claims for it. The value of senna, as a laxative, is too well known to physicians to call for any special comment, but in this scientific age, it is important to get it in its best and most acceptable form and of the choicest quality, which we are enabled to offer in Syrup of Figs and Elixir of Senna, as our facilities and equipment are exceptional and our best efforts devoted to the one purpose.

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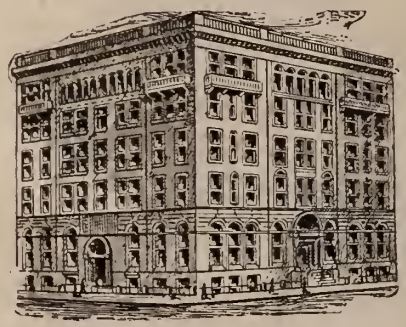
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EPITOME OF CURRENT MEDICAL LITERATURE

GASTRIC ULCER.

After noticing the frequency of excision of gastric ulcer in recent times and the comparative paucity of literature of the excision of posterior ulcers, J. E. Summers, Omaha (*Journal A. M. A.*, June 10), reports a case, with clear history, of gastric ulcer, though the symptoms were slightly aberrant. There were marked pancreatic adhesions and he thinks perforation had already taken place. The type of ulcer is described as what might be called a "turned saddle." The operation was successful and the patient made a good recovery. The article is illustrated.

KYMOGRAPHION ATTACHMENT.

D. E. Jackson, St. Louis (*Journal A. M. A.*, June 10), describes and illustrates an attachment by which the drum of the Harvard Apparatus Company's kymographion can be spun around rapidly for exactly one revolution, thus allowing supra-imposed curves to be taken on the same base line. The writing points of all muscle levers, tuning forks, etc., remain constantly on the even surface of the drum paper. The attachment answers the same purpose as the pendulum or string myograph, with the added advantages that it is smaller, cheaper and much more easily and conveniently manipulated by students.

THE KNEE-JERK.

The occasional inhibition of the knee-jerk by the patient and consequent difficulty of obtaining it, as well as the importance of the sign, are noticed by Curran Pope, Louisville, Ky. (*Journal A. M. A.*, June 10), who describes his method of eliciting the knee-jerk by which he considers it cannot fail to be shown. It is best described in his own words: "The patient, male or female, should sit in an ordinary straight-backed office chair, relaxing the entire body as far as possible. The feet are then pushed forward so as to extend the lower limbs comfortably. This position produces complete relaxation of the flexor groups of muscles of the lower limbs, and, as it is these groups of muscles that inhibit the response, it seems rational to believe that the inhibition would be prevented. With the limbs in the position indicated, and with the end of the toe of each shoe on a line, the clothing is drawn reasonably snug over the patella, with the thumb and forefinger of the left hand, in right-handed individuals. The three remaining fingers and the palm of the hand should rest on the thigh above the patella. With a percussion hammer a gentle tap is given the tendon and its response or the absence thereof can be both seen and felt, for the palm and three fingers of the left hand will give an excellent index of the prominence and activity of the response. In this position reinforcement is most satisfactorily performed and a wider range of action obtained." He has not found in medical literature any description of this method and believes it original with himself. It has done him good service in cases where it was very important to determine the presence or absence of this reflex.

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FLY CONTAMINATION WITH POLIOMYELITIS VIRUS.

S. Flexner and P. F. Clark, New York, describe (*Journal A. M. A.*, June 10) experiments which they carried on to establish the possibility of the dissemination of the infections of poliomyelitis by house-flies. They allowed full-grown laboratory-bred flies to feed on the spinal cord of monkeys infected with poliomyelitis. The flies were then killed, ground up with sand and extracted with saline solution from which a bacteria-free filtrate was obtained. This filtrate was injected into the brains of monkeys on which autopsy showed the usual lesions of poliomyelitis. The experiments showed that flies contaminated with the virus of poliomyelitis harbor the virus in a living and infectious state for at least forty-eight hours.

HEXAMETHYLENAMIN IN COLDS.

Austin Miller, Porterville, Cal. (*Journal A. M. A.*, June 10), says that, in view of the reported excretion of hexamethylenamin in the secretions of the parts affected in common cold, he has been trying it in this condition during the past year. In most cases it acts promptly and efficiently. The irritating watery secretion of coryza stops; the fever, aching and malaise of influenza cease; the threatening disease is averted. It should be administered as soon as possible after the nose begins to feel stuffy and discomfort begins. If delayed till later in an old cold and after mixed infection has occurred its effects are less satisfactory. As regards dosage, he thinks a larger amount should be used than is required for urinary antisepsis, and at the onset he prescribes twelve grams in twelve powders of fifteen grains, one powder to be taken in a glass of water four times a day. Copious water drinking is advised to lessen bladder irritation, which is the only ill effect, but occurs only occasionally and disappears as soon as the medicine is discontinued.

SILVER WIRE FOR DRAINAGE.

R. M. Harbin, Rome, Ga. (*Journal A. M. A.*, July 15) has been using fine silver wire in the form of wicks for abdominal drainage after acute appendicitis and mentions its advantages. Such wicks, firmly twisted, possess marked capillarity, the more so the finer the wire. This can be illustrated by inserting it in siphon form into a test tube of water. While not equal in capillarity to gauze, it seems to retain it longer. The wicks can be made sufficiently pliable to avoid trauma while still firm enough to retain their original shape and so can be adjusted to drain a tortuous tract and can be well applied for draining the post cecum. Of course it is necessary for it to be firmly twisted so no omentum, etc., can enter the meshes. It will be seen that its physical properties make it adaptable for a number of conditions. Lastly, he mentions the slight antiseptic properties of silver and says that his observations seem to warrant the assumption that it might tend to antisepticize a mildly infected wound. He offers this suggestion for further studies.

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VOL. XVII. AUGUST 15, 1911. NUMBER 8.

ORIGINAL ARTICLES.

THE DIAGNOSIS AND PROGNOSIS OF VALVULAR LESIONS OF THE HEART.

BY

C. H. BEECHER, M. D.,

Burlington, Vt.

My excuse for this paper is that in diagnosis we often fail to interpret correctly the signs of the valvular trouble when the fault is mainly in the method, or better, want of method of examination, and a failure to give each part of the examination its proper relative value; and in prognosis we pay too little attention to various factors which must determine the result in a given case.

DIAGNOSIS.

Beginning with auscultation let us take up the examination of the heart for the various lesions.

At each of the *four* openings of the heart, guarded by valves, there are *two* lesions possible; one of insufficiency, incompetency, or leakage of the valve, it failing to close the opening completely so that there is regurgitation of blood into a cavity from which it has just come, the blood going necessarily in a wrong direction; the other lesion possible at each orifice being that of narrowing or stenosis of the opening, causing obstruction to the passage of the blood in the normal direction.

There are then eight possible valve lesions (two at each of the four openings) each of which ordinarily produces a murmur that is to be heard *only* at a definite *time* in the cardiac cycle, and *best* (loudest) at a definite *place* on the surface of the chest.

The first thing to do in listening to a heart murmur is to time it.

By timing a heart murmur I mean to place it in the cardiac cycle as occurring either with contraction of the ventricles, that is systolic (ventricular); or during the relaxation of the ventricles, diastolic (ventricular).

This timing of the murmur at once disposes of half of the eight possible lesions. That is, if a murmur is heard, timed and found to be systolic, i. e. with the contraction of the ventricles, it must be one of the four murmurs which could occur at the time the blood is leaving the ventricles, and those are the murmurs of:

(1) A leaking mitral, mitral regurgitation; (2) a narrowed aortic opening, aortic stenosis; (3) a narrowed pulmonic opening, pulmonic stenosis; or (4) a leaking tricuspid, tricuspid regurgitation.

Or, if heard, timed and found to be diastolic, i. e. with the relaxation of the ventricles, then it must be one of the four murmurs which could be produced while the blood is entering the ventricles and those are the murmurs of:

(1) An obstructed mitral, mitral stenosis; (2) a leaking aortic, aortic regurgitation; (3) a leaking pulmonic, pulmonic regurgitation; or (4) an obstructed tricuspid, tricuspid stenosis.

I repeat, *timing the murmur throws out half the possibilities.*

A murmur may be timed in various ways. The systole or contraction of the ventricles is synchronous with the apex beat, the first sound of the heart, and the carotid pulse. A murmur then which occurs with the first sound of the heart, the apex beat, or the carotid pulse is one of the four systolic murmurs. Of these indices the carotid pulse is the most valuable single one, as it is the most likely to be present, and the least apt to be confused with other things. The radial pulse is just late enough in reaching the wrist to be useless for the purpose of timing murmurs.

Diastole is the time of filling the ventricles, and its beginning is marked by the second sound of the heart; caused by the closure of the aortic, and pulmonic valves; and it continues practically up to ventricular contraction; that is up to the first sound, the apex beat, the carotid pulse or systole.

A murmur which occurs either with the second sound or following it and before the systole is one of the four diastolic murmurs.

With the diagnosis limited by timing to four possible lesions, either the four systolic or the

four diastolic, the next step in auscultation is to determine where the murmur is best heard, the area of maximum intensity. This determination of the *area of maximum intensity* eliminates three of the four possibilities left by timing, and points to the valve lesion present.

Mitral lesions are usually heard at, or just inside the apex, occasionally along the left sternal border or at the vertebral border of the scapula. Aortic lesions are usually best heard at the second right interspace close to the sternum, though the murmur of aortic regurgitation is often loudest at the fourth left costal cartilage, and that of aortic stenosis over the carotid arteries. Pulmonic lesions are usually best heard at second left interspace, close to the sternum; and tricuspid lesions at the lower end of the gladiolus of the sternum.

I am sure ordinarily we have attached too little importance to these two factors in auscultation; *the time of the murmur,* and the *area in which it is best heard.*

The quality of the murmur, its area of diffusion, its loudness, and the extent it replaces the normal sounds are often of minor value.

All of this auscultation is of much value in diagnosis of the lesion if a murmur is present, but a murmur is often absent and when present overlooked and this frequently in the more serious stages of the lesion—or more serious lesions. Then again on account of the rapidity, and irregularity of the cardiac contractions it may be impossible to time the murmur.

If the heart were only a machine without any power of adaptation to conditions, auscultation would be the only examination necessary to make, and the only one to yield results. But unfortunately for us as diagnosticians and fortunately for our patients it can adapt itself to conditions and it becomes necessary to resort to other examinations as checks on auscultation and not infrequently these examinations alone are sufficient for a diagnosis of the lesion present. Certainly one who depends on auscultation alone for the diagnosis of valvular lesions will make many errors.

Valvular lesions would soon prove fatal if it were not for this adaptability of the heart to the varying conditions. Especially is this true of the resulting hypertrophy of the heart muscle when increased power is needed to overcome increased resistance in the circulatory apparatus. Valve lesions produce such increased resistance, it varying with the lesion present; and the resulting hypertrophy depends directly on the valve affected and the character of the lesion, stenotic or regurgitant.

The hypertrophy present in any case is determined by the examinations, *inspection, palpation, percussion,* and *X-ray examination.* Inspection and palpation furnish most important data as regards the size of the heart in the location of the apex, it being displaced in hypertrophy of the ventricles; to the left especially, and downward slightly in hypertrophy of the right ventricle, and downward especially and to the left slightly in enlargement of the left ventricle.

The hypertrophy of the auricles must be determined mainly by percussion and X-ray examination, which will also of course give the hypertrophy of the ventricles as well as it does that of the auricles.

The various lesions produce hypertrophy of the chambers of the heart which is characteristic and definite for each lesion.

Aortic lesions produce hypertrophy of the left ventricle; aortic stenosis on account of the increased resistance to the blood's leaving the ventricle, aortic regurgitation on account of the increased amount of blood it has to handle, dilating to hold it and hypertrophying in caring for it.

Mitral lesions produce hypertrophy of the right ventricle on account of the increased power necessary to force the blood through the lungs into which it dams back in this lesion. They both cause hypertrophy of the left auricle, the stenosis on account of the increased power needed to overcome the obstruction, and regurgitation on account of the increased work necessary in handling the regurgitated blood. Mitral regurgitation also produces hypertrophy of the left ventricle since it has to hold blood enough to enable some to leak back into the left auricle and still throw the usual amount of blood into the aorta.

Pulmonary valve lesions cause hypertrophy of the right ventricle; pulmonary stenosis on account of the increased work necessary to empty itself into the pulmonary artery through the stenosed opening, pulmonary regurgitation because the right ventricle has to handle the usual amount of blood plus the amount regurgitated.

Tricuspid lesions both produce hypertrophy of the right auricle; stenosis on account of the obstruction and regurgitation on account of the

extra load it has to handle. Regurgitation also produces hypertrophy of the right ventricle to handle the extra load.

Each lesion then has not only its murmur with a definite time and place but also a definite resulting change in the size and shape of the heart and the latter is the best evidence that the murmur is due to an organic lesion, and also the most important factor in estimating the extent or degree of the lesion.

On account of the associated parts of the circulatory apparatus there are other signs in the special lesions, some of which are diagnostic, or in the absence of which, a diagnosis of the valve lesion present is often impossible.

Aortic stenosis: Beside the systolic murmur best heard in the aortic area (2nd right interspace) and the hypertrophy of the left ventricle the pulse is diagnostic; on account of the lesion being infrequent, small and late in reaching the wrist; a systolic thrill, synchronous with the murmur is usually present and the aortic second sound is usually feeble or absent.

Aortic regurgitation: Besides the diastolic murmur heard best usually at the 4th left costal cartilage, and the left ventricular hypertrophy, these vascular phenomena are present: (a) Capillary pulse (b) visible peripheral arterial pulsations, (c) Corrigan's pulse, (d) pistol shot sound in femorals, (e) Duroziez's sign, and these are distinctive and diagnostic.

Mitral stenosis: Besides the late diastolic (presystolic) murmur heard best inside the apex (mitral area) and the hypertrophy of the left auricle and right ventricle, there is a thrill synchronous with the murmur, the first sound is snappy and the pulmonic second is accentuated and often reduplicated.

Mitral regurgitation: Besides the systolic murmur heard best at the apex and the hypertrophy of the right ventricle, left auricle, and left ventricle, the pulmonic second sound is accented and a thrill synchronous with the murmur is often present.

Pulmonary stenosis: Besides the systolic murmur heard best in the second left interspace (pulmonic area) and the hypertrophy of the right ventricle there is usually a thrill synchronous with the murmur and the pulmonic second sound is weak or absent.

Pulmonary regurgitation: Besides the diastolic murmur heard best in the pulmonic area, and the hypertrophy of the right ventricle there are no special signs.

Tricuspid stenosis. The diastolic murmur best heard in the tricuspid area (lower end of sternum) and the hypertrophy of the right auricle, are usually associated with mitral stenosis, (90%).

Tricuspid regurgitation. In addition to the systolic murmur heard best in the tricuspid area and the hypertrophy of the right auricle and ventricle there is systolic venous pulsation of the liver (seldom) and jugulars (often).

PROGNOSIS.

In making a forecast of the effect the valve lesion will have on the activities of a patient and his length of life, there are *various points* to be discussed. One must be guided mainly by the conditions in each case, however, and not by general principles alone.

THE LESION PRESENT.

While the total number of deaths is greatest in mitral disease, the highest percentage is in aortic disease. Most authors place aortic regurgitation first as regards seriousness, then mitral stenosis, aortic stenosis and mitral regurgitation in order—but this is modified by various factors.

Aortic regurgitation is most often rapidly fatal when it is due to a sclerotic process, coming late in life, at a period when compensation is established and maintained with difficulty. Since the coronary arteries are often involved and the myocardium rarely healthy—prognosis is always grave in these cases. These are the cases of valvular disease that are apt to die suddenly and unexpectedly even when in apparent good health, *and they are the only ones of this lesion or any other which are apt to so terminate.* Compensation in this lesion when once lost is rarely fully regained. When compensation is failing sudden death often occurs.

Aortic stenosis gives a less grave prognosis than aortic regurgitation on account of the fact that hypertrophy results from it without previous dilatation of the left ventricle. When the ventricle does fail to empty itself, or compensation fails, then rarely is it recovered.

Mitral stenosis is more serious than mitral regurgitation because it tends to increase and become extreme, throwing the burden espec-

ially on the right heart and this seldom maintains compensation well or long.

Mitral regurgitation is, as a lesion, the most favorable and is not incompatible with long and vigorous mental or physical activity in most cases.

THE CHARACTER OF THE INVOLVEMENT WHETHER PROGRESSIVE OR STATIONARY—THE ETIOLOGY.

With a given lesion the future will depend to a great extent on whether the defect is the result of an acute inflammatory attack (acute endocarditis) or of degenerative change—(arterio-sclerotic processes). In the former the lesion once established it not usually progressive, except in mitral stenosis, while a degenerative change tends to progress.

THE EXTENT OF THE LESION—THE INTENSITY.

This is to be judged mainly from the amount of dilatation and hypertrophy which has taken place in consequence of the lesion and further from the evidences of disordered circulation, venous stasis and arterial anemia, and but slightly from the pulse and murmur.

This means that the less serious lesions, when of marked extent, become of worse prognosis than the ones that are ordinarily classed as the more serious if of moderate degree.

We are asked to make prognosis in lesions of varying extent under widely different circumstances. For example:

During convalescence from acute endocarditis: We must then base our forecast on the valve involved and the cause of the condition, and as these factors will not help much, we must be guarded in our prognosis.

A lesion is discovered in an individual in apparent health and with no subjective symptoms, as in life insurance examinations. Here the question is mainly one of what the cause of the lesion was—endocarditis or arterio-sclerosis—as to whether it will be stationary or progressive. It will usually be progressive if sclerotic.

In any other class of cases the lesion is of sufficient extent so that some symptoms are present but not enough to cause the patient to stop work. Here danger is always at hand but may be warded off for years by proper care and treatment. The prognosis in this group follows the rule as regards the kind of lesion; worst in aortic cases, they rarely recovering complete compensation when once it becomes impaired.

In the prognosis of a case with complete failure of compensation, symptoms even at rest, and advanced venous stasis—in which in any event the outlook is gloomy, the especial factors to be considered are the cause of the break in compensation; whether gradual, without apparent reason, or sudden from over-exertion, bronchitis, etc.; and whether it is the primary loss of compensation. If the break in compensation has been sudden and it is the first time it has happened the probability of recovery of compensation will be much better than if the failure has been gradual and a repetition of previous failures.

In many cases even if compensation seems perfect it is often important to know the functional capacity of the heart.

There are several tests. A crude one is to note how much exercise it takes to induce subjective symptoms, dyspnea, palpitation, etc.

Mackenzie's graphic methods may be used in hospital work.

Other methods are based on changes in pulse rate and blood pressure, induced by a measured amount of exercise. Stair climbing or weight-lifting may be used for the exercise.

A simple mode of using a test is to note the difference in pulse rate between the erect and recumbent positions; normally about 5-20 less in the recumbent; in cardiac insufficiency this is completely or partly lost.

Another is to determine the length of time it takes the heart to regain its normal rate after a measured amount of work.

Care must be used in all these tests not to overstrain the heart.

COMPLICATIONS.

The nature of the complication determines its seriousness. High arterial tension by increasing the work of the heart and imposing more strain on the valves tends to aggravate the trouble which exists.

Pericardial adhesions interfere more or less with the establishment and permanence of compensation.

Chronic nephritis by increasing the work of the heart acts similarly to high tension and renders less easy attempts to remove dropsy when present. The heart condition by lowering pressure intensifies the insufficiency of the kidney.

Pulmonary tuberculosis by destruction and fibrosis of lung tissue increases the difficulty of pulmonary circulation, and the impaired nutrition from the valve lesion lessens the chances of successful resistance to the tuberculosis. Coughing throws more work on the right heart and so tends to strain compensation.

Chlorosis and anemia by the impairment of nutrition, especially of the heart muscle, and the increased liability to dilatation and palpitation affect prognosis in proportion to their degree.

Digestive disturbances act similarly to anemia in impairing nutrition and also mechanically by pressure, often cause palpitation and the onset of angina pectoris.

Rheumatism renders the prognosis bad. Any attack of rheumatism may be attended with an acute endocarditis or the present endocardial trouble made progressive.

The acute and temporary complications are not serious in compensated cases unless they tend to cause endocardial trouble as rheumatism does, or impair myocardial sufficiency as long continued fevers do.

Here we might add a word about combined lesions. Double lesions add materially to the seriousness of the prognosis, even if one is only a relative defect. When stenosis is added to regurgitation at an opening it may for a time be a conservative process by limiting the amount of leakage but as the narrowing is apt to be a sclerotic process and so progressive, what may be conservative at first, only adds to the embarrassment later.

AGE AND SEX.

At the extremities of life the prognosis is bad; in childhood on account of the liability of pericardial inflammation with subsequent adhesions, and the liability of recurrent attacks of rheumatism and endocarditis, the demands for both growth and hypertrophy are hard to meet and compensation is more apt to be destroyed from lack of self control as regards exercise, diet and emotions. In the aged, on account of the more or less present myocardial degeneration, compensation is hard to establish and difficult to maintain and the lesion (usually sclerosis) is apt to be a progressive one.

Males are more liable to aortic regurgitation while females have mitral stenosis more often than the males. Outside of these facts the question of sex is largely an individual one.

HABITS, OCCUPATION, TEMPERAMENT, SURROUNDINGS AND KNOWLEDGE OF LESION.

Habits are matters of importance in the prognosis. Temperance in all things is especially necessary in these cases. A prognosis otherwise good may be made uncertain if not actually poor by bad habits. Anything that is bad for or tends to produce heart disturbance in a healthy person is especially inadvisable for one whose heart is unsound.

Occupations which require severe, repeated and prolonged physical exertion affect the heart disastrously. Occupations which induce nervous and cardiac excitement all increase the gravity of the prognosis. The prognosis in the poor, who must labor, exposed to all weathers, with inferior food, impure air, domestic worry and annoyances, and no opportunity for recreation or relaxation, tends to be bad, as under these conditions compensation cannot often occur or be long maintained.

The patient who is thoughtless and impulsive and chafes under control will not long maintain or retain compensation.

There are probably some patients who ought not to be told of their lesion, but most cases ought themselves to be told at least a part of the truth of their condition and the situation explained to them as regards the ability of the heart to do its work. Its diminished capacity for increased work and its lessened reserve for emergencies. Certainly someone, a friend, or relative, should be told the whole truth.

If the patient accepts the situation philosophically and determines to make the best of a bad bargain the prognosis is thereby rendered more favorable, but one who cannot bear the knowledge of even a part of his condition must be given a poorer prognosis.

THE EFFECT OF DIGITALIS ON PATIENT.

When digitalis is necessary in a valve lesion the prognosis is not good. If the beneficial effect is soon lost after stopping digitalis and symptoms soon return, or the dose has to be gradually increased to maintain its effect or when even in sufficient amount it fails to increase and maintain the increase in amount of urine, myocardial insufficiency is present and the prognosis bad. However, some cases take digitalis in moderate doses daily and by it are enabled to maintain satisfactory compensation for years.

SUBJECTIVE SYMPTOMS.

So long as subjective symptoms remain in abeyance the prognosis is good; or rather the prognosis is bad when subjective symptoms appear.

Dyspnea is a serious symptom in proportion to the ease with which it is induced, its degree, and its cause; being worse when due to degeneration than when due to acute causes.

Pain is especially seen in aortic cases and makes for a grave prognosis.

Irregularity with or without palpitation is serious in aortic lesions but not so serious in mitral cases.

Vertigo and dizziness are especially seen in the aortic cases. Otherwise they are an accompaniment of loss of compensation in any case.

CONCLUSION.

In conclusion I wish to emphasize the ease of diagnosis of the lesions in the average case (1) by attention to the *time* and *location* of the murmur and (2) the situation of the resulting cardiac hypertrophy.

I am sure we ordinarily take too gloomy a view in our prognosis of valvular lesions. Many cases are not much curtailed in their enjoyment of life or in its length, but this is to be foretold only by attention to all the factors in each case.

DIABETES.

BY
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While every physician is ready to admit that fecal toxemia is a feature of some clinical importance, and possibly of more than is usually comprehended, most men must feel that we who have so urgently insisted upon it are going too far. We are making a fad of it. We are like the man with blue spectacles, to whom all the world seems blue. Not content with stating that constipation is a bad thing and letting the matter rest there, we go on to claim that fecal retention and the absorption of the toxins resulting from decomposition, form an essential factor of all febrile diseases; and that subtraction of this one element reduces the sum total of the symptoms, and the gravity of the attack, by a material proportion.

But we do not stop here; in fact, like John Paul Jones, we have only begun. We claim that an enormous number of the indispositions formerly accredited to "uricacidemia," are really attributable to fecal toxemia. We quote Sir Lauder Brunton as ascribing to this cause locomotor ataxia and other affections of the spinal cord. We emphasize the statements of alienists as to the influence of this condition in the causation of mental disorders; and add the testimony of ophthalmologists as to the immediate results following their local treatment when the bowels have been emptied. We quote the rhinologists anent the obstinacy of nasopharyngeal catarrhs, as long as fecal toxemia is not removed. We cite the experience of countless multitudes of our most experienced and observing pediatrists, the mothers of our children, as to the dependence of innumerable ailments, illnesses, sins and naughtinesses, on the part of the young, on this same cause.

Finally we present the broad proposition, that fecal toxins circulating in the blood and acting upon the points of lowest vital resistance are an important etiologic factor in most chronic and acute local diseases, and in every acute general malady.

Each of our colleagues goes with us a certain distance; but by the time we have reached this conclusion very few remain. The rest have set us down as hopeless, possessed by a hobby which we ride to the limit. Some few realize that it is not we who have promulgated all these propositions, but we have gathered them up and presented them as a whole. We have followed the emanations back to the central truth from which all have originated. It is not our doing that from many independent sources come confirmations of our hypothesis.

Nevertheless, the fear of really becoming possessed by the idea has held us back in many instances, where the evidence pointed in the same direction. Take the case of diabetes: The connection of this disease with disorder of the pancreas is becoming more clearly comprehended. Its incidence in the middle-aged, wealthy, of sedentary and self-indulgent habits, is well known. These are the especial victims of autotoxemia and yet we hesitate to call attention to the fact. Others have done so, and going further have based their treatment on this theory, with astonishing results.

In the *Lancet*, A. A. Warden cites a case of diabetes treated by Guelpa's method. A woman, aged 25, six months under treatment. She was passing 60 ounces of urine daily, specific grav-

ity 1038, with over ten percent sugar, or six ounces in twenty-four hours, as well as acetone and diacetic acid. The case had been pronounced by Pavy himself, "a very bad one." She could not be kept on a rigid diet. She was placed on the Guelpa treatment, consisting of a bottle of Hunyadi water, or its equivalent every day for three days, taken hot, with no food but water, weak tea with sugar and a little milk, clear strained vegetable soup or any hot infusion, and these only as desired for thirst or hunger—which were much less than anticipated. This treatment was given February 26, 27 and 28. On the first day the density of the urine fell from 1035 to 1025. March 1, the excretion of sugar was reduced to 25 percent, specific gravity 1025, no trace of sugar. The diet was then of green vegetables, beef tea 20 ounces, tea with milk 20 ounces and water. March 3, specific gravity 1013, no sugar; added fish and chicken. A toasted rusk and a slice of bread and butter were followed by reappearance of sugar. March 11 to 12 the cure was repeated, the density falling on the 12th to 1010, with no sugar present. Following this she was allowed a generous diet, greens, tea, beef tea, fish, chicken, meat salad with eggs, chicken broth, and occasionally potatoes, with no untoward result. Bread in any form, or "diabetic foods," caused a reappearance of sugar.

A week later free diuresis set in spontaneously, the urine rising to 145 ounces, density falling to 1006. The glycosuria only appeared when the diet was transgressed. The woman left after five weeks, having been free from glycosuria twenty-one days.

While this case is not cited as a cure, it is significant of the change in the patient when the bowels were completely emptied and the supply of toxin-forming food cut off for a brief and easily borne period.

The case for the proposition is by no means complete. I have not adduced the dependence of exophthalmic goiter on fecal toxemia, well attested by several independent observers; the connection of eclampsia with the same condition, rather than with albuminuria, which is itself frequently an indication of renal disorder consequent on prolonged vicarious elimination. But we need not follow every lead, or cite every illustrative observation. There is evidence to fully justify us in our contention, that fecal toxemia is an element, etiologic and semeiologic, of disease, so generally present that it should be taken into account in every case, as a routine measure. That emptying and disinfecting the bowel is essential, follows logically.

COSMETIC SURGERY.

BY

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Until within recent years a large part of the cosmetic surgery has been done by advertising men. This has been particularly so in this country. Much of this work has been done indifferently well and many times with actually harmful results. For some reason surgeons and specialists have felt it was beneath their dignity to attend to any but the most serious cases, and they have not treated these cases as well as the surgeons of India treated them twenty-five hundred years ago. It may be urged that the modern surgeon does not see as many cases of frightful deformity as the surgeons of India did when it was the playful habit of the Indian gentleman to cut off the nose of his enemy, or of his wife if he suspected her of unfaithfulness. With this vast amount of material they developed a method of building up noses which was the despair of the modern surgeon; in fact it was thought until quite recently that the results they claimed were impossible. Whatever may have been the reason the art of the Indian surgeon was lost and has only recently been rediscovered. The art evidently was not lost through lack of material for the condition of society and the method of warfare must have furnished many cases of deformity. Tristram Shandy, who had trouble with his nose, says that Ambrose Paré was chief surgeon. and nose mender to Francis the Ninth of France, and that he was esteemed by the whole college of physicians at that time as more knowing in the matter of noses, than anyone who had ever taken them in hand.

Paré must have been what the modern surgeon is so afraid of being called—a beauty doctor, for he had a theory to explain the shape of the nose.

A large part of cosmetic surgery at the present time is done on the nose, the eyes, and the mouth. In this paper we shall discuss the various external conditions of the nose, which may require correction. There can, of course, be no set order for this discussion and no line of demarkation between what may be considered a

deformity by the surgeon and what the patient may demand to have done. I have refused many times to operate upon noses which seemed to me well enough, but which did not meet their owners' approval.

The conditions which we are most often called upon to correct are nasal humps, sunken bridges, turned up noses, angular deformities, bulbous ends, thickened wings, and defects left by surgical operations, or as the result of malignant disease.

There are several methods of removing nasal humps, first by Monk's method which consists of making an incision through the skin at the end of the nose and separating the skin from the cartilage with a blunt instrument rather freely, especially around the hump, then a pair of blunt scissors are introduced and the hump cut away. Another method is to use a curette shaped like a hoe and to cut or rasp the hump away with this. These methods have the advantage of being subcutaneous, but the disadvantage that it is always difficult to remove the cut pieces from the site of the operation. Another method is to make an external incision either over, or at one side of the hump. If the incision is made on the bevel it does not leave a perceptible scar and it does furnish ready access to the part to be removed. After the bone has been laid bare a sufficient quantity can be removed by chisels and gouges to remove the hump and the wound can be closed, either with fine interrupted sutures, or a piece of adhesive plaster may be attached to the skin some little distance from either side of the cut and the sutures placed through this and drawn tight enough to bring the edges of the wound together. This does away with the danger of stitch marks being left. The wound heals very quickly and the redness soon disappears.

The sunken nose is the most common form of nasal deformity with which the surgeon has to deal. This results either from disease, accident or mal-development. In case of recent accident there is no excuse for the ordinary broken nose resulting in deformity. The bones are generally thoroughly broken and if the surgeon will cocainize the inside of the nose and take the thin handle of a scalpel and introduce it into the nose as far as the nasal bones, he can lift them into place and mould them with his fingers on the outside at the same time. I have lifted the nasal bones into place a week after an accident with good results. By this simple procedure not only can a sunken bridge be prevented but many of the cases of angular deformity as well. After the bones are in place they stay there without support. It is not necessary to do as Doctor Slop did to Tristram Shandy's nose. "God bless your honor," cried Trimm, "'tis a bridge for master's nose—in bringing him into the world with his vile instruments, he has crushed his nose, Susannah says, as flat as a pancake to his face, and he is making a false bridge with a piece of cotton and a thin piece of whalebone out of Susannah's stays, to raise it up." If there is danger that the nose will be hit again it is well to put on an external protection; otherwise it is only necessary to set the nose and let it alone.

There are various methods of building up sunken noses. The older methods of putting foreign substances under the skin like plates of gold or celluloid have been discarded as it was found that they were likely to cause ulceration and to be extruded. When this happened the condition was worse than at first. Where the bones are very thoroughly destroyed it is sometimes necessary to put an artificial support inside the nose but even this is avoided whenever possible. The method of putting a piece of human cartilage under the skin has many advocates but the results are far from symmetrical and it is claimed that the cartilage is finally absorbed. If this is so it probably stays long enough to stimulate a growth of connective tissue which partially fills the gap.

There has been a great deal of controversy over paraffin protheses and there have been some poor results, but if care is used in the selection of the paraffin, and the operation is divided into several stages the results are good and there is comparative little danger. A great deal depends upon the melting point of the paraffin and care not to overcorrect the deformity. It is better to make several injections at suitable intervals. In this way the danger of overstretching the skin is avoided and the paraffin has time to become fixed and to start up the growth of connective tissue which finally corrects the deformity. If one becomes overenthusiastic and injects too much it can be removed although it is not an easy task. The best way is to make small incisions with a cataract knife and remove the paraffin through them. If it has been in long enough to cause an over-

growth of connective tissue much can be done by making incisions and cutting away the tissue.

In all of these cases it is essential to study the relation of the nose to the face and it quite frequently happens that the bridge is really high enough and that the trouble is that the tip is turned up and when this is brought down the nose is symmetrical with the face. If this is the case it can be corrected by cutting a triangular piece out of the end of the septum, taking care to carry the angle of the incision well up into the nose so as to destroy the resiliency of the septum otherwise it will be very hard to keep the edges of the cut cartilage in apposition. It is not necessary to remove any of the lateral cartilage as the nostrils are usually narrow.

Angular deformities are the result of fracture and displacement of the nasal bones. They may assume various forms but the underlying condition is that the bony and cartilaginous parts of the external nose do not follow the same direction and an angle more or less acute results. Combined with this there is usually a deviation of the septum and it is useless to try to correct the external deformity without correction of the septum, either at the same time or what is better, at a previous operation. What happens when the deformity produced is that one of the nasal bones is pushed down and has become adherent. To correct the condition it is necessary to fracture the nasal bones with a chisel and when they are freely movable, to put them in such a position as will make the most presentable nose. If there is a high bridge the best way is to depress the other nasal bone and in this way the bridge is lowered and the angle straightened. If the bridge is too low the depressed nasal bone is raised. There is one step which cannot be too much insisted upon. It is, that the bones are broken so that they are freely movable, otherwise they will not stay in the new position. All resiliency must be taken out of the bones and the septum and then they will stay in place as readily as a new fracture. Sometimes it is not possible to raise the bones sufficiently and it is then necessary to fill in the gap, this may be done either with a piece of cartilage, or with paraffin. The cartilage is placed in the gap at the time of the operation but it is better to wait until after healing has taken place before using paraffin. The method of freeing the nasal bones is either by the intranasal, or the external route. In either case it is done with a chisel which is driven along the articulation of the nasal bones with the superior maxillary. The articulation is reached through an incision, either within the nose, or externally just below the margin of the orbit. When the nasal bones are free they may be moulded with the fingers, or lifted, or depressed with a pair of stout forceps, one blade in the nose and one outside, the outside blade being covered with rubber tubing so that the soft parts will not be cut. The straightened nose will generally stay in place, but if there is any doubt about it it can be held by gauze packed in the nose. I do not feel that the use of pins is a good procedure although it is used by many.

The bulbous end is corrected by making an incision within the nose and introducing a small pair of scissors and cutting away enough to overcorrect the deformity. It often happens that some of the cartilage has to be removed. The red and unsightly nose due to acne and often associated with drinking can be relieved by curetting the soft tissue from the outside. It should be pared, or scraped away until it is all removed. The skin will form over it again very quickly and if the work has been done thoroughly the condition will be overcome much to the relief of the patient and his friends.

Thickened wings may be corrected by making an incision along their border and removing enough of the connective tissue and cartilage to make them materially thinner. The wounds are closed by sutures and the scar is imperceptible. If the nose is unsightly because of too large openings, the nostrils can be reduced by cutting triangular pieces out of the top of the nostrils. One side of the triangle should be parallel to the septum and they should not extend far enough to show on the external part of the nose. The cuts are brought together with sutures.

It often happens that the end of the nose droops and the nostrils are too small. When this is the case the procedure is to cut into the base of the nostril on either side of the subseptum, bringing the cuts into one below the subseptum some little distance towards the lip. The detached piece is then raised sufficiently and incision sutured in a single line to raise and hold the detached portion; thus changing the triangular incision into any incision.

If the nostril is too broad at the base but is high enough it is only necessary to cut out and suture a triangular piece in the base of the nostril. To anyone who has observed these cases it is needless to say that the conditions to be relieved are endless in their variety and that it is only by study of each case that satisfactory results can be obtained. One point should be borne in mind, and that is, that these operations upon the nostrils have a real use outside of the cosmetic effect. A nostril that is too small is as much of an obstruction to breathing, oftentimes, as a deviated septum and is quite as necessary to relieve. On the other hand where the nostril is too large it exposes the patient to all the dangers of nasal infection in the same way as more open nasal chamber of a deviated septum suffers from infection and is the more often diseased.

The means used to repair defects left after disease, especially after the caustic treatment of malignant disease, vary all the way from the adjusting of an artificial nose, or part of a nose to the repair of a slight defect. The artificial part is held in place by springs or dull hooks which catch under projections which are left, or when they are not well placed projections can be made by the surgeon. The makers of artificial parts furnish a certain kind of gum called zinc-leim, which sticks the edges to the skin. The smaller defects are closed by slipping flaps, either square, triangular, double triangular, or crescentic. Care must be exercised to make the lines of the incisions conform to the lines of the face as much as possible. When the surgeon decides what shaped flap he will use, he makes the incision and then thoroughly undermines the flap so that it can be slipped into place and sutured there without undue tension. If he finds that the defect is too large or the tissue is not available then a flap can be twisted from another part and swung into place. Sometimes it is necessary to undermine the skin and pass a flap under a bridge of skin to get it into the location wanted. Where the gap is in the ala it is often better to swing a flap down from the healthy tissue of the nose above and then fill the gap left by slipping the skin, or if necessary to swing another flap into place. Where a good deal of tissue is lost flaps are taken from the cheek and from the forehead. If this is not sufficient one can be taken from the arm or may be transferred from the chest or abdomen; they at first being attached to the arm and after healing are severed and then carried to the nose, and the circulation being kept up by the attachment to the arm until it heals in place. The finger has been used to supply the bony part for the nose and after it has healed in place the finger is severed from the hand and later any defects in the built up nose are filled in with flaps swung in from the forehead or cheek. The different methods are almost endless and the results by any of them are often surprisingly good. Fortunately these extreme cases are very rare but they are exceedingly interesting and give the surgeon an opportunity to exercise his ingenuity.

The vast majority of the cases one sees are slighter defects and hardly any two of them are alike, but with care and study they are greatly improved and I believe this to be a legitimate field of work and far removed from the making of artificial dimples and cupid's bow lips. The patients who want those things done are not easily satisfied so the life of the beauty doctor is not an easy one.

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EXTRA-UTERINE PREGNANCY.*

BY

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Ashurst's International Encyclopaedia of Surgery, edition of 1889, was probably the most classic and complete work on surgery published at that date, but in it is no reference to extra-uterine pregnancy as we think of it today. The discussion of the subject in that work takes cognizance of the cases only that have gone beyond the period of rupture, cases where the foetus has died and formed an abscess, or where it has become viable. The chief question there presented is what to do with the placenta, and the advice is to let it remain and slough out.

The following, quoted from Ashurst's, will give an idea of the state of knowledge 35 years ago.

"In October, 1875, three prominent Philadelphia obstetricians met daily in consultation for 16 days over the case of a lady who was

*Read before the meeting of the White River Valley Medical Association.

suffering the pains of false labor, in the effort of nature to discharge an extra-uterine foetus which was alive during their early visits. As they could not promise the husband that an operation would probably save the life of his wife, they waited for the time to come when they could do this; but while doing so, and when the lady appeared to be getting better, she was suddenly seized with agonizing pains followed at once by a state of collapse, and died in 30 minutes."

To Lawson Tait must be given the credit of throwing the searchlight of pathological anatomy on this anomalous freak of nature which has cost so many women their lives, and which has gone down in the death certificates as idiopathic peritonitis or hematocele.

Tait performed the first operation for rupturned ectopic gestation in March, 1883.

Ectopic gestation is undoubtedly always tubal. It may occur at the junction of the tubes and ovary, when it is called *tubo ovarian;* in the free tube, when it is called *tubal;* or in the portion of the tube which runs through the uterine wall, when it is called *tubo uterine* or interstitial. The first two forms are clinically the same. The latter may become essentially intra-uterine or it may rupture as the other varieties.

The *etiology* of ectopic pregnancy is not clearly understood. The most generally accepted theory is that there is some lesion of the interior of the tube which causes an obstruction of the ovum so that when impregnated it is held within the tube. When we consider that lesions of the tube are so very common in women who have normal pregnancies, and that women with apparently normal tubes become the subjects of extra-uterine pregnancies, we are inclined to be somewhat sceptical in accepting this theory. There are cases of ectopic gestation reported in which the microscope has shown absolutely no abnormal change in the tubal epithelium.

The whole subject of the fecundation and descent of the ovum is a matter that we know almost nothing about and until we know more the etiology of ectopic gestation will remain much in the dark.

PATHOLOGY.

The question of why the tube ruptures so early, before it has attained the size that we often see in pyosalpynx, is a puzzling one at first sight, but the answer is to be found in the fact that "as the ovum grows the tubal wall becomes thinned and weakened by the ingrowth of the chorionic villi." (Am. Text Book of Gynecology).

It is not necessary nor proper in this short paper to go into all the details of the pathological processes associated with tubal pregnancy. It is sufficient to say that

(1) The rupture may be so extensive, involving blood vessels and sinuses, as to cause the immediate death of the patient.

(2) It may be slight and associated with slight, moderate or severe hemorrhage, causing symptoms in proportion to the amount of hemorrhage.

(3) The lesion may heal and the rupture be repeated.

(4) Ruptures occur probably in all cases before the beginning of the fourth month.

(5) The rupture usually kills the foetus, but in certain cases it may escape through the rent and live, being nourished by the placenta in the tube. In this event a sack usually forms around it, though it may be absolutely free in the abdominal cavity. All cases that go beyond the third month are accounted for in this way. It is said that before the eighth week the foetus may escape from the fimbriated extremity.

(6) Rupture may be slight, the foetus killed, and the effused blood, foetus and membranes may be absorbed, and the patient recover.

SYMPTOMATOLOGY.

(1) *Before rupture.* Amenorrhea. This symptom is constant and when in addition there is a slight "show" at the time of the menstrual period it is of great importance in the diagnosis. *Symptoms* of *pregnancy* are usually present—nausea, pain in and enlargement of the breasts. These symptoms are given in the books and are in my experience often wanting.

Physical signs. A tumor may be felt in the region of one of the tubes. The uterus is enlarged and the cervix soft and patulous. A decidual membrane is sometimes thrown off from the uterus, which under the microscope is almost absolutely diagnostic.

(2) *After rupture.* The sudden pain, faintness, pallor, rapid pulse, subnormal temperature, and often vomiting, are characteristic. Where the blood gravitates into Douglas' Pouch there is rectal pain, which is almost diagnostic.

These symptoms may be so severe as to denote and be followed by almost immediate death, or they may be so slight as to be almost un-

noticed—so slight that it is only by careful questioning that we are able to draw from the patient the history of a sudden pelvic pain with slight faintness and perhaps nausea. A patient walked one day into my office feeling well but complaining only of flowing for three weeks. This flowing was at first considered by the patient to be a regular menstrual period although it was one week late, which, however, was a frequent occurrence with her. There had been some pain but not enough to interfere with her daily duties. A tender, boggy mass was felt in the right side and the diagnosis of ectopic gestation was confirmed the next day by operation.

An examination after rupture will reveal anything from a distinct tubal tumor to an indefinite suggestion of bogginess.

Diagnosis. It would seem that the diagnosis of extra-uterine pregnancy would be easy. In some cases it is. But I think I have made more mistakes on it than in any other abdominal problem that I have tried to solve.

Diseases of the tubes, more especially pyo-salpyngitis and appendicitis are the conditions most frequently confounded with ectopic gestation. Uterine fibro-myomata cause doubt in diagnosis. In considering this most important subject—the diagnosis of tubal pregnancy—I purpose to take it up from the clinical side and discuss some of the cases that have come within my experience.

I have operated 36 times where ectopic gestation was found. In one case it was double. All of these cases have been operated on after rupture, with loss of more or less blood. In only three-fourths of the cases have I been able to make a positive diagnosis before operation.

The following case illustrates the simulation of appendicitis: Miss R., unmarried, school teacher. Five days before had severe pain in right iliac region. Pain continued and increased. I saw her with temperature 103, pulse 140; abdomen distended; unconscious, but could be roused, though not to answer questions. There was marked pallor, which ought to have made me think of hemorrhage. The patient seemed to me to be dying of septic peritonitis caused by appendicitis, and after my very gloomy prognosis the parents were much inclined to let her die without operation, but finally decided for it. Incision in right side showed blood in abdomen. Incision then was made in median line and ruptured right tube and very large amount of blood clot removed.

The following case is also of interest. The patient, a widow, was sent into a hospital with the diagnosis of pus tube. Pulse and temperature elevated; history obscure, with nothing in it pointing to the real condition of things. Examination was made, after a few days, under ether, and an indefinite something felt. A few days after that the nurse told me that there had been a slight "show." On that sign I made a diagnosis of ectopic gestation, even though the patient emphatically denied the possibility of such a condition. The diagnosis was confirmed by operation.

Another case illustrates how easy it is to complicate the diagnosis with pyo-salpynx. Here is the history as it appears on the hospital records: "Married 12 years. Has two children living. Three years ago had abscess in right side of abdomen, discharging through vagina. Recovered. Twenty days ago taken with pneumonia and on getting out of bed 13 days later taken with severe pain in right side of abdomen, and vomiting, pain lasting three days. Yesterday was taken with same pain. Menstruated two weeks ago." Operation disclosed not only ectopic gestation, but hydro-salpynx on the other side, and a marked inflammatory condition of the appendix.

I have had one other case in which the appendix was markedly inflamed. That case had had severe pain six weeks before, had flowed at irregular intervals and continuously for the two weeks previously. Her case was diagnosticated pus tube. There was left sided tubal pregnancy, right sided hydro-salpynx, both mixed up together and the appendix mixed up in the mass with them.

I have seen one case showing the possibility of confusing the diagnosis of extra-uterine pregnancy with fibroid outgrowths. This patient had the signs of pregnancy and there was a large mass to be felt on each side of the uterus, which was enlarged to the size of a 4 months' pregnant uterus. I was called to operate for ectopic gestation, but could not accept the diagnosis. The woman had much pain and a great deal of general disturbance. My diagnosis was pregnancy with either double pus tubes or fibroids in the region of the tubes. The latter was found

to be the condition, and I did total hysterectomy, as it was evident that with two large rapidly growing fibroid tumors she could not continue her pregnancy.

I operated on two cases of tubal pregnancy, both on the same day, without making a positive diagnosis in either. One had been sick about three weeks. Pelvic pain was the chief symptom. There had been no fainting spells, and there was nothing characteristic in the history. There was considerable flowing. By vagina a small mass was felt to the right of the uterus. The diagnosis lay between pus tube, tubal pregnancy and appendicitis. We could get no nearer than that. Operation showed that the tube had ruptured, though the hemorrhage had been slight. The other case was one which I watched for about ten days before consenting to operate. She was a negress, who had, two or three weeks before I saw her indulged in a "potato race." She fell in a faint, had pain; seven days later had another fainting turn. Had a good deal of abdominal pain. Examination of abdomen showed a boggy condition on left side, extending above and to right of umbilicus, flat or nearly so on percussion. I could not feel anything definite by vagina; was inclined to diagnosis of tubercular peritonitis. Examined one day under ether. Nothing more definite felt. One of the gentlemen thought she had an ovarian cyst. One day she expelled a cast of the uterus. She had not menstruated for three or four months. The history of the case made me think of extra-uterine, and with that and the cast of the uterus the diagnosis ought to have been made. It was considered, but rejected on account of lack of evidence on examination. At operation it was found that the tube was very high up. The boggy mass was intestines matted together with blood clot.

A woman came into the Springfield Hospital who had been flowing for three weeks and had some abdominal pain. The previous menstrual period was a week late, scanty and followed by some flowing. She came into the hospital with a temperature of 103 and pulse of 120, having had severe pain the night before. She had no idea that she was pregnant, having had none of the symptoms. Under ether the uterus was found to be nearly six inches deep and contained foul membranes. On the left side a mass was felt. The diagnosis of ectopic gestation was considered before the patient went onto the table but was changed to septic endometritis with pyosalpyngitis. The uterus was curretted.

The temperature and pulse dropped to normal and continued so for a week, apparently justifying the diagnosis. She continued to have pain, however, and the supposed pus tube was increasing in size, so it was decided to remove it. This was done and a ruptured ectopic pregnancy was found with a circumscribed collection of about a quart of blood in the pelvis.

I wish at this point to report one case which is unusual enough to merit some consideration. The following is from my records: Mrs. F. seen at the Noble Hospital in Westfield, Feb. 16, 1904. Expected time of delivery this week. Flowing November 1. Had cramps. Diagnosis at that time was appendicitis. She was in bed five or six days. Had several attacks of pain in the right side. Twelve days ago had pain like labor pains. Had hemorrhage. Felt motion until four days ago. A correct diagnosis of extra-uterine pregnancy at full term was made by her family physician by dilating the cervix and putting the finger in the uterus and finding a depth of four inches. On operation a male child was found dead, weight 6½ pounds, lying in membranes in abdominal cavity. The placenta was attached all over the lower abdomen and pelvis. The membranes were stitched to the abdominal wall and packed with gauze. The wound was partly closed. There was some hemorrhage after the operation following attempts on the part of her physician to remove the placenta. Two weeks after the operation she had obstructive symptoms and died."

These cases of full term ectopic gestation are most unusual and present a problem that is not easy to solve in regard to the disposition of the placenta. Most writers advise treating it as I treated it in this case. It involves a grave danger of sepsis and hemorrhage. On the other hand, an attempt to remove it at the time of operation is likely to cause tremendous hemorrhage. I think, however, that in another case I should make a desperate attempt to remove the placenta at the time of operation rather than to let it remain and slough out.

Aside from the symptoms which are present in typical cases and which are in accordance with those given in the books, the two most important signs which have been demonstrated from a careful analysis of my cases are (1)

flowing. By this is not meant the "show" that is seen in most cases at the time of the monthly period, but a metrorrhagia that may last a week or even a month. We do of course get this in other conditions, but where we have it it is well to be on the watch for tubal pregnancy.

(2) Hemorrhage into the abdominal cavity especially when it gravitates into the pelvis gives to the touch a peculiar, indefinite, boggy sense of an indeterminate something. The blood clots, the clots cause intestinal adhesions, and the definiteness of a tubal tumor may be entirely lost. So when this indefinite bogginess is felt we must not forget the possibility of ectopic gestation.

To sum up: The history of the case is of the utmost importance and should be most carefully brought out and studied. When a woman has gone over her menstrual period for any time more than a week and has abdominal pain and a slight amount of flowing, whether or not she has pallor, faintness and nausea, look out for extra-uterine pregnancy. These are the cardinal symptoms: pain and flowing coming on a week or more after menstruation should have appeared. The history is much more important than the physical signs. The latter are often lacking. The appreciation of that condition of bogginess in Douglas' cul-de-sac is most important. It is, however, a condition that is often most difficult of recognition.

Under the subject of treatment there is a question that has been much discussed, and that is, Shall we operate in cases where the patient is in a state of the most profound collapse? Most authorities answer that in the affirmative, and they are perhaps right. The following case, however, shows the advantage of waiting: Some years ago I saw Mrs. L. in Wilbraham at about noon. Nine hours before, she had had sudden severe abdominal pains with faintness and collapse. Had steadily failed and when I saw her was absolutely pulseless, blanched, with sighing shallow respiration, and sweating. I did not think she would live to get onto the table, to say nothing of getting off of it alive, and advised letting her alone, thinking that what slight chance she had of rallying would be greater than any she could have on the operating table. She rallied and two days later was sent into the hospital, where I operated on her the next day. She made a good recovery, and I am confident that she was more wisely treated than she would have been by immediate operation. On the other hand, I have operated upon two women who had such severe hemorrhage that when I saw them they were blanched and almost pulseless. They both died within a few hours after the operation. When a women is in this condition I have come to the conclusion that it is safer to take the chance of spontaneous cessation of hemorrhage and of her rallying under treatment than that of immediate operation.

That is the only subject to be discussed under the subject of treatment. With that possible exception all cases are to be operated when the diagnosis is made. Except in extreme collapse the prognosis after operation should be very good.

Continuing the quotation from the "Discourse of the Whole Art of Surgery," published in 1654.

In the chapter on "Age" which is considered as needful to speak of in connection to natural things, asks first:

"What is age?"

"It is a space or part of our life in which our bodies are subject to many mutations."

Then the discussion by the ancient philosophers, in regard to the division of life into the different ages, is entered into at length. Also the facts are brought out that some people grow old much more rapidly than others. "That the sanguine complexion be long in growing old because they have much heat and humidity." And again, "Hippocrates reporteth that women * * * * * * become sooner old; for the feebleness of their body, and fashion of life, being for the most part idle; and there is nothing that bringeth sooner old age, than idleness and want of exercise." Then he says: "The most part of our late writers are of opinion, that the natural course of our life indureth five special mutations, which they call ages, to wit, Infancy, Adolescence, Young Age, Man's Estate, and Old Age: The infancy is hot and humid, but the humidity surpasseth the heat, and lasteth from the hour of our birth till thirteen years, and is governed by the moon as saith Prolomeus: in this time man is subject to many griefs and diseases like as fevers, fluxes, worms in the belly, the stone, aposthumes, and sundry others.

"The adolescence is hot and humid but the heat beginneth to surpass the humidity; the voice

beginneth to grow great in men, and paps in women, and it lasteth to twenty-five years, which is the time preferred for growing in height, in this time men incur many diseases, chiefly the statick, as saith Gordon, and is governed by Mercury who formed the manners and wit.

"The third age is Youth, which is hot and dry, but more hot than dry, and lasteth till thirty and five years, and is subject to hot fevers, frenzies, with sundry other diseases, and is governed by Venus, and engendereth great cupidity of lust.

"The fourth is Man's Estate, most temperate of all, and lasteth till fifty years, and neither augmenteth nor diminisheth; in this time men are subject to hot fevers, fluxes of blood, pleurisy, lythargie, frenzy, and such like, and is governed by the Sun, author of Wisdom and Gravity.

"Then cometh Old Age, which lasteth the rest of our life, and may be divided into three. The first, called green age, which is prudent and full of experience, fit to govern commonwealths and lasteth till seventy years, and is governed by Jupiter, author of Wisdom and Council.

"Then cometh the second part of Old Age accompanied with divers little incommodities, the heat then almost decayeth, and is cold and dry, like plants that do become rotten and decayed; in this time man is subject to many diseases as epilepsy, lithargie, numbness and such like as saith Gord: and is governed by Saturn, then they be full of slooth, dull, froward, and uneasy to be governed.

"Lastly the third part of Old Age which is called decrepid into the which as saith the royal Prophet happeneth nothing but grief and sorrow. All the actions both of body and spirit are weakened, the feeling groweth remiss, the memory decayeth, and the judgment faileth: so returneth to infancy, whence procedeth the great proverb *Bis pueri senes.*"

The following chapter is so interesting and so much of it could be well applied to conditions today that we will print it entire. It seems rather strange that people of that time could have so sensible ideas in regard to diet and such superlatively erroneous ideas in regard to some other things, as for instance, the remedies or helps as should be used by old people, a little of which we quote from the chapter following this. Of the Entertainment of Old Age.

"Being earnestly requested by some of my friends, (who are aged and sickly) to prescribe some form of regimen for the better entertainment of their life, which I am willing to do, although it be more medical than surgical: yet in respect to their entreaty, and the great number of aged people in their countries, who may not at all times have the council of the learned: for the which cause I thought good to speak some thing briefly of that matter: And therefore I demand of you, how many principal rules were necessary to be observed by old people in their diet?

"Eight.

"Which be they?

"The first is, that they never eat till they find some little appetite, for then meat is most agreeable to the stomach, and will better digest, and will better digest the evil meat having some appetite, than the best meat having no appetite, as at length it is set down by Hippocrates.

"The second rule is, that the meat should be well sodden and chewed before it be let down, otherwise it chargeth the stomach too much, and troubleth the concoction, not being cut small with the teeth or knife, which being done, advanceth the first digestion. This is the reason that they that have many teeth live long as saith Hippocrates.

"Thirdly, they must be very wary to overcharge their stomach, but ever rise from the table with appetite to eat more, for in over much charging the stomach, the natural heat is weakened. Hippocrates saith, a man should never eat till he be full, neither busier to exercise; for moderate travel excites the natural heat; so, very necessary for all people to be used before meat.

"Fourthly, that they eat only one or two sorts of meat at once, otherwise it troubleth the stomach, for all meats are not of one quality, and some digest sooner than others: besides, the eating of divers meats and sundry sauces, provoketh much drink, which is a hindrance to the digestion, as saith Hippocrates, Plutarch, Plinius, and Macrobius, who were of the opinion, that one sort of meat is best, and most easy of digestion.

"Fifthly, there ought to be an order observed in eating, and those meats that digest easiest, should first enter into the stomach, like as pottage, prunes, and such other, as hath the virtue to loose the belly; gross and rude meat should last be taken.

"The sixth, they shall eat more at supper than at dinner; provided, they be not subject to catars, and distillations: and that because there is more time between the supper and dinner, than between dinner and supper, to digest and distribute the aliment through the body: for certain it is, in sleeping the heat returneth to the center, for it digesteth the better: besides, all digestion should have rest, and so it digesteth the better.

"Seventhly, that which they eat should be of good nourishment, and easy of digestion, abstaining from all gross, viscous, windie, flegmatick, and melancholique meats, by reason old people having the natural heat cold, dissipate not the gross superfluity easily.

"Eighthly, that they be nourished oft and little at a time, which is meet to be observed both by old and young, as is at large set down by Galen. * * * * * * According to those rules, we find the old mediciners, as Hippocrates, Galen and Avicen have ever practiced. Galen remarketh that the athletes eat flesh never but at night. Aristoxenus writeth, that the Pithagorians eat only at dinner a little bread and honey. Philemon the old writer saith, that the Greek soldiers at Troy took four meals a day; the first three, only a little bread and wine, and at night a little swines flesh. These rules shall be sufficient in this place, in respect we are to speak hereafter (of the nourishment most proper to be used and to be abstained both by old and young) at length in the Chapter of meat and drink; as also concerning air and exercise, shall be set down in sundry Chapters in the second Treatise of this Book."

OF SUCH REMEDIES OR HELPS AS SHOULD BE USED BY OLD PEOPLE.

"Seeing age is subject to sundry inconveniences and diseases, I would fain know certain remedies for correcting and helping the same.

"As concerning the hardness of the belly, divers things may be prescribed, yet I find broth most familiar, which may be made diversly: like as to take the tender leaves of Malloses, Mercuriall, and the Barbary Tree, Beets, Horsehoof or Colts-hoof, with a few Prunes Damask: let all be well purified and sodden with a soft fire, a piece of veal or mutton, and take a draught of that in the morning next your heart: or you may take a broth Gremcall, or Colweed, with a little oile *de Olive*. But for the wealthier sort, may be made thus, which is most good: Take an old cock, and pull him quick, kill him and bruise him well, pull out the guts, and wash him twice with white wine, then fill up his belly with Perceley roots, leaves of Burradge and Buglosse, Pimpernell, Mercurie, Spinnage, Figgs, Raisons, Plowdamas, Dates, Hissop: Seeth all at a soking fire till it be well sodden, take of the broth a reasonable draught three mornings together. It hath the virtues to loose the belly, it cleaneth the passages of the water, and giveth breath."

In a recent work on the rearing of infants the following directions are given, and refer, presumably, to the proper handling of the feeding bottle: "When the baby has done drinking, it must be unscrewed and laid in a cool place under the tap. If the baby does not thrive on fresh milk, it should be boiled."—*Exchange.*

Toasting America.—The late Prof. John Fiske liked to tell the story of three patriotic Americans who toasted their native land as follows: The first—"Here's to the United States, bounded on the north by British America, on the south by the Gulf of Mexico, on the east by the Atlantic, and on the west by the Pacific."

The second—"Here's to the United States, bounded on the north by the North Pole, on the south by the South Pole, on the east by the rising and the west by the setting sun."

The third—"Here's to the United States, bounded on the north by the aurora borealis, on the south by the precession of the equinoxes, on the east by primeval chaos, and on the west by the day of judgment."—*N. Y. Press.—Merks Archives.*

Erysipelas.—A saturated solution of magnesium sulphate applied on gauze and kept constantly wet is reported to have a very beneficial result in erysipelas.—*Pacific Med. Journal.*

Medical Notes.

Hospitals in charge of missionaries win favorable opinions from all classes of society. Dr. Frank Van Allen, an American Board missionary in Madura, India, writes that Hindus have contributed over $5,000 to the Albert Victor hospital in that city, although it is a distinctively Christian institution. A few years ago such a thing would not have been dreamed of by either missionary or Hindu.

An international hospital has been opened in Adana, Turkey, that being the most pressing need after the massacres which entailed a great deal of sickness and suffering. The city has a permanent population of nearly 70,000, and this is the only hospital in the district, except one for the Turkish soldiers. Major Doughty-Wylie, the British consul, says that "nothing in the way of charitable effort has been done in this country more worthy of generous support, nothing more acceptable to all races and creeds." There will always be private wards and special care for Americans and other foreigners. There are often cases of serious illness among tourists, or among foreign workmen sent out to set up new machinery, and the only accommodations for such are in the private homes of missionaries. A leading German firm, which has several of its own men in Adana is actively interested in the hospital. The nurses are mainly English. The American Board, which has been at work in Turkey for more than half a century, will be responsible for outfit and traveling expenses if the right man can be found to be at the head of this important work, and an American woman has pledged one quarter of his salary for two years. If Adana were in the condition that it was before the massacres there would be a good revenue from fees, but the present desolation makes this source of income small.

Unmistakable Evidence.—A witness in a railroad case at Ft. Worth, asked to tell in his own way how the accident happened, said:

"Well, Ole and I was walking down the track, and I heard a whistle, and I got off the track, and the train went by, and I got back on the track, and I didn't see Ole; but I walked along, and pretty soon I seen Ole's hat, and I walked on, and seen one of Ole's legs, and then I seen one of Ole's arms, and then another leg, and then over on one side Ole's head, and I says, 'My God! Something muster happened to Ole.' ".—*Everybody's.*

Cesarian Section in Placenta Praevia.—Kroenig, of Freiburg, maintains that as regards the mortality of mother and child in placenta praevia centralis, no one of the usual methods of treatment can compete with Cesarian section. Of his own 16 cases and 10 reported by Sellheim, all the mothers lived and also every child that weighed more than 2000 gm. at birth. He holds Cesarian section to be indicated only when, with an aseptic birth canal, section can be carried out at the beginning of the period of dilatation. Kroenig's only case of the somewhat severe hemorrhage was one in which at the time of operating the cervix was already moderately dilated. He contradicts Veit's statement that cervical tears resulting from treatment by version and extraction can be easily sutured by the average practitioner.—(*Berliner Med. Woch.*, Jan. 3, 1910)—*Denver Med. Times.*

Not Tending to Business.

A country doctor was recently called upon to visit a patient some way from his office. Driving to where the sick man lived, he tied his horse to a tree in front of the house and started to walk across the ground. It happened that work was in progress on a new well, of which the doctor knew nothing until he found himself sinking into the earth. He fell just far enough to be unable to get out of the hole unassisted, and lustily yelled for help.

When he was finally pulled up the hired man remarked to him:

"I say, doc, you had no business down there."

"No, I don't think I had," replied the doctor.

"Don't you know," continued the hired man, "you ought to leave the well alone and take care of the sick?"

Orthopedic Suggestions.

Perhaps the patient has flat foot. Think it over and examine the feet before you write a prescription for salicylates for supposed rheumatism.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D., B. H. STONE, M. D., ...*Editors.*

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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

BURLINGTON, VT., AUGUST 15, 1911.

EDITORIAL.

Probably no national legislation has ever provoked the opposition that the pure food law has encountered. Agitated for years before its final passage, it has been a storm center ever since. Every provision of the act has been the subject of legal battle with varying individual results but with the final outcome of making it look like a canvas tent which has been the focus of an attack with grape and canister. The last serious wound is the late Supreme Court decision in the case of United States vs. O. A. Johnson. This is the famous "cancer case" which was an indictment for shipment of packages of medicine bearing labels that stated that the contents were effective in curing cancer.

The portion of the law under which this shipment was condemned is Section 8 which reads as follows:

"The term misbranded 'shall apply to all drugs, or articles of food, * * * the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the state, territory or country in which it is manufactured or produced."

The Supreme Court held that "The phrase is aimed not at all possible false statements, but only at such as determine the identity of the article, possibly including its strength, quality and purity."

And any misstatement concerning ingredients and kind but hardly so as to medical effects. That if a statement as to contents undescribed and unknown is shown to be false only in its commendatory and prophetic aspect, it does not come as such within the act.

This decision knocks the foundation out from the pure food law as far as making it of any use in controlling the nostrum evil. We look for a speedy regrowth of the business which has only been held in restraint but not crushed by the attempted enforcement of the Federal and State laws. So obvious is the result of the Johnson decision that President Taft has called the attention of Congress to the necessity for an amendment which will stop the hole in the law. The drafting of such an amendment will not be a simple matter. The effect of the decision is to separate the domain of therapeutic action of a drug into two separate spheres of evaluation. One involving mere opinion and the other, a question of fact. It is a delicate matter to regulate by legislative act, matters of therapeutic standards. The mere addition of a misbranding clause, covering therapeutic action, will not settle the matter because these clauses must always be to some extent, matters of opinion. It is not and never will be difficult to find plenty of individuals, even honest individuals, who will vehemently declare that they have experienced great curative effects from the most absurd measures, while there can be no reasonable doubt from the medical point of view re-

garding the absurdity of therapeutic clauses, the courts must consider all the testimony and weigh it with mind untrained in technical knowledge.

We may certainly expect any such legislation to be vigorously met with the accusation of attempting to arbitrate therapeutic standards. The league for medical freedom will start the "Doctors' Trust" Bogy again with a vengeance.

For many years the subject of medical education has been receiving a great deal of attention and educators have been discussing the problem of methods of teaching, curriculum, etc., with reference to determining a logical standard of efficiency which a medical school should possess in order to give satisfactory instruction.

It has been generally conceded that medical schools should adopt practically the same pedagogical methods, at least for the scientific branches of medicine, as have been adopted by institutions giving instruction in general education.

The importance of this is apparent when we consider the rapid advance that has been made in medical knowledge during the past two decades. The microscope has made it possible to establish many departments of medicine on a firm scientific basis that before were vague and theoretical. The subjects of Embryology, Histology, Bacteriology and Pathology can now be taught with a degree of positiveness that characterizes the teaching of science generally. This positive knowledge has, of course, had a marked influence in changing the ideas of the cause and treatment of disease generally, so that the whole subject of medical teaching has had to be changed from time to time to incorporate the new facts that have been determined as the result of scientific research.

The volume of this knowledge has become so great in these scientific subjects that it is no longer possible for a man to teach them satisfactorily who is engaged in the practice of medicine, he has not the time to either qualify himself thoroughly or to teach satisfactorily. It has become imperative, then, that medical schools must provide men for the teaching of the scientific subjects who will devote all their time to teaching and research.

The teaching of the practical subjects, including the various subdivisions of medicine, surgery and obstetrics can be done better by men who have become proficient in some one subject by the observation of a large number of cases. The older methods of didactic teaching, then, must be largely replaced by laboratory teaching in the scientific subjects and clinical teaching in the practical subjects.

This will involve a very large increase in the cost of maintaining a medical school and will increase the deficit between the amount received from the fees of the students and the cost of maintenance of the school. It is plain, then, that medical schools must provide a larger endowment to meet this deficit if they are to continue, medical education must receive as generous support from endowments as general education does, and schools that cannot provide this endowment cannot meet the requirements of modern medical standards.

It is a pleasure in this connection to note that the University of Vermont College of Medicine, as usual, is alive to the situation and has reorganized the Faculty of Medicine to meet this new condition. It has provided men for the heads of the departments of Anatomy, Physiology, Chemistry, Materia Medica including Pharmacology, and Pathology who will devote all their time to the work in these subjects. In addition to these positions in the Executive Faculty there are five Adjunct Professors and Instructors who devote all their time to teaching. This provides all time teachers for the scientific

subjects of Medicine in the University and brings the organization of this department of the University on exactly the same basis as the largest and best medical schools in the country.

The standard of scholarship maintained by the College of Medicine of the University of Vermont has always been good. Last year there was less than 10% of failures of graduates to pass State Board examinations. This gives the department a rating for scholarship in the same class with Harvard, Yale, Columbia, Cornell, University of Pennsylvania, Johns Hopkins and many other high grade medical schools. The state may well be proud of the University of Vermont College of Medicine.

NEWS ITEMS.

The 98th annual meeting of the Vermont State Medical Society which is to be held in Burlington, October 12th and 13th promises to be of more than usual interest this year.

The program which is nearly completed includes papers by Drs. G. W. Crile of Cleveland, Ohio; F. H. Albee and W. Gilman Thompson of New York City; M. B. Hodskins, Palmer, Mass.; H. C. Tinkham, Burlington; S. W. Page, St. Albans; W. C. Klotz, Pittsford; J. M. Allen, St. Johnsbury; W. W. Townsend, Rutland; E. J. Melville, St. Albans; A. H. Bellerose, Rutland; and Dr. D. C. Hawley, Burlington.

The local committee of arrangements consists of Drs. C. A. Pease, T. S. Brown and F. E. Clark. They promise some new features in entertainment.

The exhibitors of books, drugs and surgical apparatus, etc., have already applied for more space than has been used for some years.

The meetings will be held at the Medical College. The headquarters will be at the Hotel Vermont where the banquet will be served the evening of the 12th. There will be no evening session, the banquet being served early. It is expected that President Benton of the University of Vermont will be one of the speakers at this function.

A daughter was born July 20th to Dr. and Mrs. Lyman Allen of Burlington.

Dr. F. O. Cass has left Derby Line and is now practicing in Provincetown, Mass.

Dr. J. C. Breitling of Lunenburg, Vt., has accepted a commission in the Army.

Dr. H. W. Leith of Haverhill, N. H., aged 39 years, died of lockjaw June 16th.

Dr. McMurphy, formerly of New Hampshire, who has been residing for the year past in South Burlington, has opened an office in Burlington at the corner of Pearl and Union Streets.

Dr. John J. Derven of Poultney, was married July 12th to Miss Gertrude P. Murphy of West Rutland.

A daughter was born July 16th to Dr. and Mrs. Geo. Coutu of Burlington.

The annual Health Officers' School will be held at the High School in Burlington, August 21st to 24th, inclusive.

The Rutland County Medical Society held its annual meeting at Lake Bomoseen on July 11th. The following officers were elected: President, Dr. C. F. Ball of Rutland; Vice-President, Dr. H. R. Ryan of Rutland; Secretary, Dr. William Stickney of Rutland.

A report from Chelsea, Mass., states that the local Board of Control has instituted a definite plan of action in the effort to rid its community of mosquitoes. The salt water marshes in the vicinity of the town are to be drained and the land between the State Boulevard and the Snake River will be ditched. The Metropolitan Park Commission and the neighboring towns of Malden, Everett and Revere will cooperate in the work.

Mrs. Russell Sage has given $500 to the Iced Water Fountain Committee of the Woman's Municipal League, for the erection of two fountains and also a fund for their maintenance for three years. This gift will bring the number of ice water fountains in charge of the committee up to thirty, including one donated by the Young Women's Hospital Guild, which is to be placed in the Health Department's building, at Sixth Avenue and 55th Street. With this exception, these fountains are all located in the poorest districts of the city.

The *New York Medical Journal* has the following to say about the motor fan. The motor fan doubtless mitigates the discomforts of a warm and crowded office but it is well known that its spinning actually elevates the temperature; the cooling effect comes from evaporation of perspiration in the breeze produced. The fan has two dangers, easily obviated fortunately, one of blowing particles of dust into the eyes and mouth, and another, of causing muscular pain in the neck, back and loins, by its very action in facilitating evaporation. The fan should not be directed toward the person, but either to one side or over the head, when its mechanical zephyr will become quite harmless and little less refreshing.

The Supreme Court of Illinois has decided that a contract binding a physician to furnish medical services to a patient for life for a specific consideration is not void because contrary to public policy. The contract was attacked on the ground that it was a wagering contract and that it offered an incentive to the commission of crime by shortening the life of the patient by improper treatment or neglect or even by positively committing murder. The court dismissed the contention that the contract is one of wager as being untenable, also that it is obviously untenable that there was a temptation to commit murder. The court says the contract in question is like a contract to bequeath one's property upon the owner's death in consideration of maintenance and care during lifetime.

Dr. G. P. Morris, formerly of Randolph, Vt., who has lately practiced at Ellenville, New York, is located in his old home, Rochester, Vt.

Dr. E. B. Richardson has left Rochester, Vt., and is now located at Attleboro, Mass.

Dr. Harriett Noyes Randall, recently of Claremont, N. H., has given up practice and has taken the position of physical instructor and teacher of Hygiene at Wellesley College.

Dr. Jessie A. Dow entered practice at her home in Claremont, N. H., Aug. 2nd.

OBITUARY.

Dr. George M. Fox, the oldest practicing physician in Rutland, a member of the American Medical Association, the Vermont Medical Society, the Rutland County Medical and Surgical Society, and a founder of the Rutland Medical Club, died at his home July 28th, aged 81 years. He had been ill several days with an intestinal trouble.

Dr. Fox was a descendant of Thomas Fox, a freeman in Cambridge in 1638. He was born in Wallingford and was educated in Troy Conference Academy at Poultney and at Castleton Medical School, graduating in 1851. After this preparation for his profession he studied in Philadelphia and in New York Medical College, returning to his native town to practice. In 1863 he moved to Rutland and he had practiced here ever since. President Arthur appointed him a member of the State Board of Pension Examiners and he served four years, being secretary. He was physician to the State's Prison.

Dr. Ralph E. Gallinger of Concord, son of United States Senator Jacob H. Gallinger, was killed in an automobile accident just before midnight July 13th. Dr. Gallinger and A. E. Davies of Concord had been out for an evening spin in the former's car when the machine struck a sandy stretch of roadway and turned turtle. Gallinger was pinned beneath the car and instantly killed. Davies was severely injured, but not fatally. Dr. Gallinger was 40 years of age.

Mrs. M. R. Crain, wife of Dr. M. R. Crain, died at her home in Rutland, July 1st, of typhoid fever.

BOOK REVIEWS.

Goepp's State Board Questions and Answers—Second Edition Revised.—By R. Max Goepp, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Second Edition Revised. Octavo volume of 715 pages. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $4.00 net; Half Morocco, $5.50 net.

Additions have been made to the former volume covering the more recent developments in serum diagnosis, the treatment of syphilis, chemotherapy, etc. The book is valuable to the practitioner desiring to "brush up" for a State Board Examination.

The Care of the Baby—The New (5th) Edition—By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the University of Pennsylvania. Fifth Revised Edition. 12mo. of 455 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $1.50 net.

It is hard to conceive any contingency in the care of the baby from conception through childhood which is not clearly elucidated in the book. Its rapid course through the intermediate edition to the fifth edition just issued, is indicative of its popularity. It is intended for mothers, and is written in clear, simple language without sacrificing any accuracy. The long section on the Sick Baby is not intended to supplant the physician but is intended for mothers in emergency cases where medical aid cannot be obtained.

Modern Otology—Second Edition Revised—The Principles and Practice of Modern Otology—By John F. Barnhill, M. D., Professor of Otology, Laryngology and Rhinology, Indiana University School of Medicine; and Ernest de W. Wales, B. S., M. D., Clinical Professor of Otology, Laryngology and Rhinology, Indiana University School of Medicine. Second edition revised. Octavo of 598 pages, with 305 original illustrations, many in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50; Half Morocco, $7.00 net.

The second edition of this work following the first so quickly attests its hearty reception. The simplicity and directness of the text and the general approachability of the first volume, have been retained. Some parts of the book have been entirely re-written, but in general it has simply been amplified. The work is a very valuable one for men working in these lines.

Diseases of Infants and Children—The New (3rd) Edition, Revised—A Manual of Diseases of Infants and Children—By John Ruhrah, M. D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore. Third Revised Edition. 12mo. volume of 534 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Flexible leather, $2.50 net.

This little book considered the subject matter in a clear concise manner under clear headings. It makes no pretenses to take the place of the more pretentious works, but as the author modestly puts it "not to supplant the larger and necessary text-books, but to enable the student to grasp quickly the more important parts of the subject of pediatrics, and to furnish him with a rapid reference book for clinical use." Especially to be commended are the footnote references all the way through the book. It is bound in the flexible leather which is so attractive—a valuable manual.

What to Eat and Why—By G. Carroll Smith, M. D., of Boston, Mass. Octavo of 310 pages. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $2.50 net.

The question of diet is unquestionably a great bugbear to the average practitioner. The chemistry of the food may be understood in a general way and the physiological requirements known and yet the practical diet rules for the individual case are hard to formulate. In this volume the author seeks to aid the physician in this perplexing matter. In the author's own words he has "attempted to simplify diet, etc., therapy, for the medical student and make it chief among therapies for the busy practitioner, stimulating him to prescribe a dietetic therapy as readily as an electro, hydro, erum or drug therapy.

New and Nonofficial Remedies, 1911—Containing descriptions of articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to Jan. 1, 1911. Price, paper, 25 cents; Cloth, 50 cents. Pp. 282.

This is the 1911 edition of the annual New and Nonofficial Remedies, issued by the Council on Pharmacy and Chemistry of the American Medical Association, and contains descriptions of all articles approved by the Council, up to Dec. 31, 1910. There are also descriptions of a number of unofficial non-proprietary articles which the Council deemed of value. The action, dosage, uses and tests of identity, purity and strength of articles are given.

In the arrangement and the scope of individual descriptions, the present edition does not differ widely from the 1910 edition, but it contains about twenty-five additional pages, these being required to describe the articles accepted by the Council during 1910.

Besides indicating to physicians the proprietary articles which the Council's examination has found to be honestly marketed, and containing accurate descriptions of these articles, all similar articles are arranged under group headings: thus the physician at a glance can learn that atoxyl and soamin are practically identical articles, and that arsacetin is a closely related body. Again, the several proprietary solutions of the blood-pressure-raising principle of the suprarenal gland are listed under a general title "epinephrin," and the manner in which the solutions differ from each other can be learned at a glance. In the

same way, the medicinal foods are brought together and their relative value compared.

The new Directory lists 421 tuberculosis sanatoria, hospitals, and day camps; 511 associations and committees for the prevention of tuberculosis; 342 special dispensaries; 68 open air schools; 98 hospitals for the insane and penal institutions making special provision for their tuberculosis inmates; besides giving an account of the anti-tuberculosis legislation in every state and in about 250 cities. The Directory, which is the third of its kind that has ever been published in this country, gives the most complete survey of the anti-tuberculosis movement that can be secured, and shows the remarkable growth of this campaign in the last seven years. The first Directory in 1904 showed only 183 organizations and institutions in the entire United States. The second Directory in 1908 reported 649 different agencies, as compared with 1,440 in the new book. Taking these figures as a basis, the anti-tuberculosis movement has increased in force since 1904, nearly 700 per cent., and since 1908, over 105 per cent.

The following table shows the growth of the movement along the principal lines of activity for each year since 1905.

Year	Associations	Sanatoria and Hospitals	Dispensaries	Open Air Schools
Established before 1905	18	111	18	..
" during 1905	15	18	6	..
" " 1906	18	16	14	..
" " 1907	46	30	45	1
" " 1908	109	45	118	2
" " 1909	167	67	59	10
" " 1910	117	68	62	16
" " 1911 (Apr. 1)	21	66	20	39
Total	511	421	342	68

The new Directory is sold by the National Association for the Study and Prevention of Tuberculosis, 105 East 22d Street, New York City, at cost price, 50 cents postpaid.

NEW DIRECTORY Shows 1,500 Agencies Engaged in Consumption Fight, and the Tuberculosis Movement increased 700 percent.

From statistics published today in the new Tuberculosis Directory of the National Association for the study and Prevention of Tuberculosis, it is ascertained that over 600 cities and towns of the United States, besides about 100 in Canada, are engaged in the war against consumption, and that on April 1st there were nearly 1,500 different agencies at work in the crusade, an increase of nearly 700 per cent. in the last seven years.

MERCK'S MANUAL OF THE MATERIA MEDICA—(Fourth Edition)—A Ready Reference Pocket Book for the Physician and Surgeon. Containing a comprehensive list of Chemicals and Drugs—not confined to "Merck's"—with their synonyms, solubilities, physiological effects, therapeutic uses, doses, incompatibles, antidotes, etc.; a table of Therapeutic Indications, with interspersed paragraphs on Bedside Diagnosis, and a collection of Prescription Formulas, beginning under the indication "Abortion" and ending with "Yellow Fever"; a Classification of Medicaments; and Miscellany, comprising Poisoning and Its Treatment; and an extensive Dose Table; a chapter on Urinalysis, and various tables, etc. (Merck & Co., 45 Park Place, New York, 1911. 493 pages. Sent on receipt of forwarding charges of 10 cents, in stamps, to physicians, or to students enrolled in any College of Medicine, in the United States).

This little pocket volume contains a vast amount of useful information in compact and readily available form. It contains four parts—Materia Medica, Therapeutic Indications, Classification of Medicaments and Miscellany.

INEBRIETY—A clinical treatise on the Etiology, Symptomology, Neurosis, Psychosis and Treatment, and the Medico-Legal Relations. T. D. Crothers-Harvey Publishing Co.

That inebriety is a disease is admitted by all students of the subject, yet that the subject is still treated lightly even in the face of the alarming growth of the condition is attested by the fact that this is the first scientific work on the subject. Dr. Crothers' extensive experience in the treatment of these cases, his acknowledged leadership in the scientific study of the condition and his practical literary experience as editor of the *Journal of Inebriety* guarantees the character of the book.

Receipt is acknowledged of Volume 2 and 3 of the Reports from the Pathological Department of the Central Indiana Hospital for the Insane. So little has been accomplished in the past in the study of insane, that such work as is being done in the excellent institution is encouraging in the extreme.

Bound to Recover.

Patient—"Tell me candidly, Doc, do you think I'll pull through?"

Doctor—"Oh, you're bound to get well—you can't help yourself. The medical record shows that out of one hundred cases like yours, one per cent invariably recovers. I've treated ninety-nine cases, and every one of them died. Why, man, alive, you can't die if you try! There's no humbug in statistics."—*Lippincott's.—Medical Brief.*

Dr. C. D. Ussher, a medical missionary under the American Board in Van, Turkey, writes that people in America would undoubtedly flee the dispensary connected with his hospital if they should see the patients. He says: "Picture them brought in among the crowd: smallpox cases in every stage, papules, vesicles, pustules and scabs; famine, scarlet fever, diphtheria, measles and whooping cough. If you talk to the friends about microbes and infection, many either look at you nonplussed or assure you that there are no microbes on them, they had a bath a month or two ago or 'last Easter.' Those whose friends are able to care for them properly are sent home and those most needy are sent to the hospital if there is room for them. Yes, smallpox, scarlet fever, typhus, typhoid, and all are sent to our one and only hospital, and it takes much labor and expense in washing, bathing and disinfecting to prevent infection of others." It is a three-story building 50 by 70 feet with four general wards and nine private wards, one of which with two beds is used for contagious diseases when cases are few.

Myelogenous Leukemia in a Child.

Whiphman reports the case of a child eighteen months of age, who was healthy until one year old, when he began to waste. The father gave a history of untreated syphilis. The child was unable to sit up. The fontanelle was wide open. There was no bossing of the skull. The ribs were slightly beaded, but there were no epiphyseal enlargements. The lymphatic glands were just palpable and somewhat hard. The spleen extended to the middle of the abdomen, and four and one-half inches below the umbilicus. The liver was enlarged. The blood count was as follows: Red cells, 4,080,000; leucocytes, 63,400; hemoglobin, 80 per cent. The differential count showed: Polymorphonuclears, 32.4 per cent.; lymphocytes, 5.2 per cent.; large mononuclears, 18.8 per cent.; transitionals, 12.8 per cent.; eosinophiles, 2.6 per cent.; basophiles, 0.6 per cent.; neutrophile myelocytes, 25.8 per cent.; eosinophile myelocytes, 1.6 per cent.; normoblasts, 1.6 per 100 leucocytes. Subcutaneous hemorrhages occurred upon the extensor surface of the right arm, or the right shin, on the scalp, left ear, left eyelid, and left side of the face. The child had been under observation one month, and it was getting worse; the leucocytes had risen to 101,000. The child had received x-ray treatment without evident effect. The author refers to thirteen known cases of myelogenous leukemia in children. The earliest reported was four months of age.—*Proceedings of the Royal Society of Medicine.*

The Value of a Leucocyte Count.

Rhamy (*Jour. Ind. State Med. Soc.,* June 1910, p. 249) from a review of 300 miscellaneous counts draws the following conclusions:

"A differential count is of much more value than a total count.

"The differential and total count taken together may and most often does give much valuable diagnostic and prognostic aid.

"The differential count gives an index of the amount of toxic absorption.

"A high neutrophile count, with a high total count, indicates either an acute systemic infection, a gangrenous process or suppuration.

"A neutrophile count above 80 per cent usually means suppuration.

"A low polynuclear or total count, in the presence of a severe process, denotes low resistance, proportionate to the decrease.

"An increase of large lymphocytes, accompanied by an eosinophilia, is presumptive evidence of syphilis in a suspected case.

"An increase of large lymphocytes and transitional cells, with a diminution of neutrophiles, small lymphocytes and eosinophiles, in the presence of a continued fever, is strong evidence in favor of typhoid.

"Leucocytic crises may occur in typhoid.

"Typhoid usually has a leucopenia during the first week; after the first week leucocytosis is common.

"A small lymphocytosis may be part of the early pathological changes in Graves' disease.

"The role of the transitional cells seems to favor the theory that the large mononuclear cell is the common origin of all forms of leucocytes."

Drugs Which Color the Urine.

In making urinary tests certain confusing reactions may occur as the following clipping shows:

"Bromoform gives a greenish color, which, however, is not characteristic, as it occurs with other drugs.

"Cascara sagrada, etc.—A yellow or reddish-yellow color results if considerable doses of drugs of this group have been taken. On boiling and on the addition of nitric acid this color becomes dark yellow to brownish. On the addition of an alkali a red color results, which persists on boiling. The addition of baryta water or the milk of lime causes a colorless precipitate to be thrown down, the urine meanwhile retaining its color.

"Phenocoll and its salts turn the urine a reddish-brown color, sometimes even dark brown. On adding ferric chloride the discoloration becomes more pronounced, but it disappears again on adding sulphuric acid.

"Phenol—The urine turns dark green and then black as a result of the formation of hydroquinine. Salol gives a similar discoloration, but urine containing it turns dark red on the addition of ferric chloride, showing the presence of salicylic acid.

"Santonin gives a dark red color owing to the production of hematoporphyrin. The coloring matter can be precipitated in an alkaline solution of barium chloride, and is dissolved in alcohol containing a small amount of hydrochloric acid.—*Med. Summary.*

The Treatment of Hemorrhage from Gastric Ulcer.

Kaufmann (*American Journal of Medical Sciences,* June, 1910) considers gastric lavage a method of the greatest importance in the control of gastric hemorrhage. He saw this method used first in Kussmaul's clinic more than twenty-five years ago and since that time he has used it in a series of cases with favorable results. When carefully performed, the danger of causing perforation by overdistention from lavage is out of the question. On the contrary, lavage exerts its greatest benefit by doing away with the real cause of overdistention, by removing the large quantities of accumulated blood, acid secretions, food remnants, and gas, which are usually present in such cases, often producing an enormous distention of the stomach. A further objection to lavage is that it disturbs the complete rest of the stomach, which is essential in order to firmly secure the freshly formed thrombus. This is correct when the hemorrhage has ceased and when an efficient thrombus has formed. However, conditions are different when the bleeding continues, because then either no thrombus has developed, or if formed, does not completely fill the opening of the vessel. Kaufmann states that the passage of the tube is not difficult and does not excite the patient. Lavage should always be tried before an operation is decided upon.

Sterilization of Rubber Gloves.—Braun (*Beitrage zur klinischen Chirurgie*) says, for carrying out the researches six kinds of bacteria were used, viz.: Prodigiosus, staphylococcus albus, streptococcus, pyocyaneus, subtilis, and mesentericus vulgatus, the last two of which are spore-formers. Frequently, instead of bacteria, fresh staphylococcus pus was used. The bacteria and pus were dried upon glass pearls and several of these placed inside the finger-tips of each glove. Control cultures were made from some of the pearls. Several times the inside of the gloves was smeared with culture fluid or pus. Each glove was wrapped in a piece of gauze and placed in a Lautenschlager bandage sterilizer. The sterilizer was then wrapped in a woolen cloth and placed in an autoclave at 100° C. and sterilized for varying lengths of time. In order to show the influence of various kinds of packing, the gloves were sometimes laid flat, sometimes folded, at times laid loosely, at others tightly packed. All the gloves were powdered inside with talcum. A number of the rubber gloves were drawn over cotton gloves and the infected pearls placed in the finger-tips between the rubber and the cotton. After steril-

ization the glass pearls were placed in bouillon, or in case pus had been used the finger-tips were cut off and placed in bouillon, and the tubes placed in the incubator. The tubes were kept for five to eight days, and then suspected cultures were plated and microscopic preparations made from them.

After sterilization for one-half hour the gloves were not sterile even when loosely packed, not folded, and with cotton gloves inside. Even the vegetative forms of bacteria were not killed. After three-quarters of an hour sterilization was not perfect, although the majority were sterile. The germs which survived were almost always the spore-formers. In the only instance in which vegetative forms resisted the sterilization the gloves had been folded and the cotton gloves had not been used. After an hour's sterilization the gloves were absolutely sterile even when closely packed, folded, and without the insertion of cotton gloves. It is recommended that rubber gloves be exposed to steam for at least an hour, that they be laid flat, loosely packed, each glove wrapped in gauze, powdered with talcum, and cotton gloves placed inside.—*Charlotte Med. Journ.*

The Sensibility of the Abdominal Organs.—Wilms (*Deutsche Zeitschrift fur Chirurgie*) believes that, contrary to the opinion of Lennander, which is accepted by Muller and Goldscheider, sensory nerves are present in the mesentery. He agrees with Lennander that there are no sensory nerves in the intestine. The sensory nerves of the mesentery extend for a varying distance toward the intestine, in many persons extending to within two or three centimeters and approaching close in the region of the blood vessels. Opposed to the opinion of Lennander and Muller the author has found it easy to demonstrate that in relatively moderate fullness or distention of the intestine a stretching and tearing of the mesentery occurs, for every incision made in the mesentery parallel to the intestinal canal becomes widened into a circular opening as soon as distention of the intestinal canal occurs. This stretching of the mesentery and of its nerves is the cause of the colicky pain which occurs in intestinal obstruction.—*Charlotte Med. Journ.*

How to Become a Neurasthenic.

Eat no breakfast.

Indulge in but one meal daily; at any rate not more than two. Eat no meat. Eat freak cereals, vegetables, nuts and fruit.

Masticate every morsel two hundred and sixty-eight times—two hundred and sixty-seven times wont do.

Take a cold bath every morning.

Take a laxative every day whether you need it or not. Better still, a cathartic. Take enemas frequently.

Be massaged daily.

Read the health magazines daily.

Read all the books on how to gain self-control and on psychotherapy.

Concentrate the mind upon the digestion and upon all articles of diet.

Upon every possible occasion discuss your imaginary troubles with your friends and coerce your wife into catering to every dietetic whim that you can formulate.

Buy a lot of apparatus for indoor exercise and roll a cannon ball around the abdomen every day along the course of the colon.

If all else fails, try Christian Science.—*Critic and Guide.*

Orthopedic Suggestions.

A burning sensation in the sole is often the chief complaint in some cases of flat foot.

The characteristic thing about the pain of flat foot is that it may be anywhere in the affected limb. It may be under the arch, around the maleolus, in the calf, in the knee, in the thigh or even in the hip.

Children should not be taught to turn their toes out when walking. This position puts the foot to a mechanical disadvantage and induces flat foot.

Children should not wear spring heel shoes after their 6th year. Let them have heels. Indiscriminate wearing of corset shoes is bad. They restrict motion and interfere with the development of the muscles.

"Hay Fever: Adrenalin

I never think of the first without thinking of the second. There is nothing strange about that, though. The Adrenalin preparations 'fill the bill'; and you are not over-modest about telling us so."

A medical practitioner said this to us the other day. There is a sting in the last sentence. We are not greatly offended, however. In fact, we admit the justice of the impeachment. We *do* sound the praises of the Adrenalin products occasionally. These preparations, in our opinion, afford the most satisfactory palliatives in hay fever—*and we want the medical profession to know it.* That is why we are publishing this announcement. Our medical friend unconsciously provides us with a better advertisement than we could write if we tried all summer—and we cheerfully give him the top of the page.

SOLUTION ADRENALIN CHLORIDE

Adrenalin Chloride, 1 part; physiological salt solution (with 0.5% Chloretone), 1000 parts.

Dilute with four to five times its volume of physiological salt solution and spray into the nares and pharynx. (Ounce glass-stoppered bottles.)

ADRENALIN INHALANT

Adrenalin Chloride, 1 part; an aromatized neutral oil base (with 3% Chloretone), 1000 parts.

Dilute with three to four times its volume of olive oil and administer in the manner described above. (Ounce glass-stoppered bottles.)

ANESTHONE CREAM

Adrenalin Chloride, 1:20,000; Para-amido-ethyl-benzoate, 10%, in a bland oleaginous base.

A small quantity (about the size of a pea) is applied three or four times a day, the patient snuffing it well into the nostrils. (Collapsible tubes with elongated nozzles.)

[NOTE.—We also supply **Adrenalin Ointment, Adrenalin and Chloretone Ointment, and Anesthone Tape,** all successfully used in the treatment of hay fever.]

PARKE, DAVIS & COMPANY

Laboratories: Detroit, Mich.; Walkerville, Ont.; Hounslow, Eng.

Branches: New York, Chicago, St. Louis, Boston, Baltimore, New Orleans, Kansas City, Minneapolis, Seattle; London, Eng.; Montreal, Que.; Sydney, N.S.W.; St. Petersburg, Russia; Bombay, India; Tokio, Japan; Buenos Aires, Argentina.

THERAPEUTIC NOTES.

A Promising Agent in Hay Fever.—Dr. J. E. Alberts, of The Hague, Holland, undoubtedly performed an important service when he directed the attention of the medical profession to his new combination for the treatment of vasomotor rhinitis. We refer to the combination now known as Anesthone Cream, which has heretofore been briefly noticed in these pages, and which contains one part of adrenalin chloride to twenty thousand (1:20,000), and ten per cent. of para-amido-ethyl-benzoate, and is marketed in the form of an ointment.

Applied to the mucous membrane of the nares, Anesthone Cream has a persistent anesthetic effect which affords marked relief in hay fever. As para-amido-ethyl-benzoate is only slightly soluble in aqueous fluids, its anesthetic action is prolonged. It does not have the poisonous effect of cocaine upon the protoplasmic element of cells, nor does it depress the heart. Furthermore, there is no tendency to "habit" acquirement.

The preparation came into considerable use during the hay fever season of last year, the consensus of opinion being that it affords a very practical and satisfactory means of relief from symptoms due to hyperesthesia of the nasal mucous membrane, and without ill effects—an important consideration. The fact that the relief continues for several hours in some cases is worth remembering, in view of the fleeting effect of most local anesthetics.

Anesthone Cream is supplied in a collapsible tube with an elongated nozzle to facilitate its application to the nasal mucosa, a portion of the cream about the size of a pea being applied three or four times a day, as may be necessary. It is marketed by Parke, Davis & Co. Whether, as an agent in the treatment of hay fever, it will attain the vogue reached by some other preparations put out by the same company—notably Adrenalin Chloride Solution and Adrenalin Inhalant, which have been before the medical profession for a number of years and thus have the advantage which pertains to priority—remains to be seen. At any rate it is worthy of a fair chance, which, of course, in the long run it is certain to get.

Nerve Storms of Women.—The nervous crises of women, which detract so much from their usefulness and happiness, owe their origin, in a vast majority of cases, to irregular or suspended functions of the generative organs, and whilst frequently, the correction of the latter will result in the disappearance of the former, in some instances these remote manifestations of ovarian or uterine disorders may be continued over such a long period that they become fixed nervous wrongs and remain even after the abatement of the initial abnormality.

Every physician knows the potent influence irregularity of the female generative organs has on the higher centres and fully realizes the importance of seeking the underlying cause.

By reason of wide deviations from right modes of living, ovarian and uterine disorders are far more frequently met with today than formerly and physicians are devoting much of their efforts to a clearer understanding of the functions peculiar to women. Judiciously chosen therapeutic measures will do much to aid in restoring these suffering women to a well ordered life, particularly if dietary and hygienic regimes of a higher plane are instituted.

Inasmuch as it is usually the demand for relief from the mental vagaries of this class of patients that sends them to the physician, it becomes necessary at once to offer relief for this phase of the diseased agents. For this purpose Neurosine has proven a most efficient combination and is being largely used. Just as soon as control over the mental manifestations of the ovarian or uterine disease is attained, treatment, directed against the latter, must be instituted. As a rule there will be found interference with the menstrual function. To correct this, no more valuable product than Dioviburnia is at the physician's command. It is a combination of well chosen drugs which have a correcting predilection for ovarian and uterine tissues and in conjunction with Neurosine, will serve to bring the patient back to normal vigor, the one, correcting irregularities of the functions peculiar to women while the other controls the nervous storms which arise as a result of the primary disease.

A Tissue Nutrient for the Summer.—Ofttimes during the summer, the physician is put to his very wit's end to find a tissue nutrient for his tubercular and debilitated patients; one that will agree with them during the hottest weather. Cord. Ext. Ol. Morrhuae Comp. (Hagee) by reason of its palatability and the ease with which it is assimilated, is the ideal agent of this character not alone in the summer but at all other seasons.

THACHER'S WORM SYRUP.

An analysis and a description of the dangers of this nostrum appears in the Propaganda for Reform department of *The Journal A. M. A.*, July 15. The preparation was examined after a case of fatal poisoning in a 5-year-old girl had been reported from the use of it. Analysis indicated that each teaspoonful dose of Thacher's Worm Syrup contains about ⅔ grain of santonin. As no indication of the poisonous properties of the nostrum is given by the manufacturers, who state that it is a "safe" remedy for children, *The Journal* reasonably says "that a nostrum such as Thacher's Worm Syrup, which contains santonin in poisonous quantities, has no place among domestic remedies." In closing it is remarked: "There is nothing about the package or on the label to denote that Thacher's Worm Syrup contains a dangerous poison. On the contrary the nostrum is said to have a 'safe effect on the child and to leave it in a healthy condition.' Furthermore, it is suggested that it can be 'spread on bread or cake.' In view of these things, it is absurd to suppose that the average mother would consider that there was anything harmful in Thacher's Worm Syrup and, being likewise convinced of the harmlessness of castor oil, it is not surprising that these two drugs should be given at the same time. Even when given under the supervision of a physician, dangerous by-effects have been noticed from the administration of santonin. Total blindness and even death have followed the use of this drug in children. That it should be placed on the market with no warning as to its toxicity and sold as 'safe' medicine for children is little less than criminal."


GLYCO=THYMOLINE
PROPHYLAXIS—The very nature of artificial foods and cow's milk predisposes to their rapid decomposition. A few drops of Glyco Thymoline added to each feeding corrects acidity and prevents disorders of stomach and intestines.
TREATMENT—As an adjunct to your treatment of summer complaints, Glyco-Thymoline used internally and by enema corrects hyperacid conditions, stops excessive fermentation and prevents autointoxication. It is soothing—alkaline—nontoxic.
SUMMER COMPLAINT
KRESS & OWEN CO. (SAMPLES AND LITERATURE ON APPLICATION.) 210 FULTON ST., N. Y.
SOLE AGENTS FOR GREAT BRITAIN, THOS. CHRISTY & CO., 4, 10 & 12 SWAN LANE, LONDON, E. C.

PELLAGRA.

S. R. Roberts, Atlanta, Ga. (*Journal A. M. A.*, June 10), applies Dr. Sambon's theory of the origin of pellagra from the bite of a Simulium to the occurrence of the disease as observed in Georgia. He reproduces the five propositions of Sambon, viz., that it is not due to the eating of maize; that its foci are in the neighborhood of streams infested with the Simulium and have been so for a century or more; that the pellagra stations are closely associated with streams of running water and that it is a periodic disease, agreeing in this respect with the seasons of activity of the Simulium fly. He has obtained reports from thirty sources as to the occurrence of pellagra and the environment as regards streams of running water, and found that in all cases they were in the close vicinity of the latter. The reporters were independent of each other and had no prepossessions in regard to the subject. The topographic conditions of the regions where pellagra occurs in Georgia are very similar to those of northern Italy, where pellagra abounds and there is a like abundance of Simulium flies. The seasonal incidence in both is the same and the cases occur alike in rural communities and not in the towns. The corn theory is not supported by the facts in either country.

A DIRECTORY FOR WET-NURSES.

F. B. Talbot, Boston (*Journal A. M. A.*, June 10), says that most general practitioners have had difficulty in finding wet-nurses in cases where they were needed, and points out the necessity of some means of supplying the need. An attempt made about ten years ago to register wet-nurses at the Boston Medical Library, something after the manner of an intelligence office, failed. In February, 1910, a directory of wet-nurses was opened under the supervision of the hospitals of the Massachusetts Infant Asylum. A moderate-sized house was obtained, with accommodation for six women and their babies, and postal cards were sent to physicians announcing that they could be there obtained at an expense of a fee of $10, used for the support of the institute. The methods of examination of wet-nurses and their babies are thorough and special attention is given to signs of tuberculosis and syphilis. The nurses are largely obtained from the maternity hospitals, and when they are in a run-down condition they are fed up before going out to work. They are carefully instructed as to the care of infants and are under the supervision of two excellent trained nurses. Their babies always go with them, no exceptions being made, for good reasons. They are supposed to receive wages of $8 a week, which they save for the future, but may receive less by arrangement if the families are not able to pay as much. If the demand continues to increase as it has the directory should be self-supporting in about another year. The reasons why the baby is to be taken with the mother are given as follows: "Usually a baby which requires a wet-nurse is so sick that it cannot drain her breasts as does the normal infant; if the breasts are not emptied by the healthy baby after the sick one is satisfied the milk soon dries up. Second, if the nurse's baby is placed at board the money earned would quickly be used up; and, third, it is hoped that if the mothers and babies are kept together long enough the former will become so attached to them that they will always care for them. It has been found that most of the mothers do become fond of their babies. All have said: 'I don't know what I should have done if this opportunity had not been given me.' Lastly, the directory is profiting from the experience of the wet-nurses in New York, whose babies are placed out to board as soon as the mother obtains a position, with a reported mortality of 95 per cent. The mortality among wet-nurses' babies while under our care has been zero." In spite of some early unhopeful experiences, the results have been very satisfactory. The patrons are scattered from Maine to Connecticut and occasionally, when only a few ounces of human milk were required, it could be supplied alone. This plan is also, as mentioned in a note, utilized in Chicago by the Northwestern University Medical School diet kitchen.

TUBERCULOUS JOINT-DISEASE.

J. J. Nutt, New York (*Journal A. M. A.*, June 10), reports a case which came under his observation after four years treatment by as many different surgeons. While a patient of the third surgeon she became very anxious to have the apparatus (some sort of convalescent splint) removed. About five years ago, when she put herself under the charge of the fourth surgeon, she was told that she ought to have discarded all braces ten years before, and since then has had no protection to the joint, but has had massage and passive movement prescribed. She had complained of weakness from the first and this has of late years been increasing. The surgeon treating her did not seem to appreciate this fact. The weakness should have decreased instead of increased in proper convalescence. At the time seen she was able to walk a short distance, but used the leg more as a prop than as a support. There was acute sensitiveness behind and above the great trochanter and marked muscular spasm at the limiting points of motion and acute apprehension of the joint to weight-bearing. The radiogram showed absence of the head and neck of the femur and an almost completely filled acetabulum and a partly formed socket above the old one. Protection of weight-bearing by use of crutches and prohibition of massage and passive movements was ordered. The report is made as illustrating the need of frequent examinations during convalescence.

SALVARSAN.

S. J. Meltzer, New York (*Journal A. M. A.*, June 10), says that salvarsan is not simply a new remedy for syphilis but that it marks an epoch in medicine, a new departure and new principle in therapeutics. He reviews the rapid fall and slow rise of therapeutics during the new medical era, the nihilism which prevailed in the middle of the last century or a little later and the recovery from the reaction with the founding of the science of bacteriology and the acquisition of the knowledge that many symptoms of disease are only Nature's attempts to cure itself. He is afraid that many, at the present time, are still nihilists as regards drugs. His own view is summarized in the statement that we possess many drugs for the treatment of symptoms of diseases and are well provided with good advice as to how to treat the patient, but we have at our command extremely few remedies for the treatment of the disease itself or its chief cause, and, what is worse, he says, a great

many of the better class of physicians are still dominated by the old fatalistic doctrine and hold that we can diagnose a disease but that we are still unable to cure it. Mercury and quinin are almost the only specific remedies, and both of these were discovered empirically, as he points out. Salvarsan is the first instance in the history of medicine of an efficient specific, scientifically developed and by the mental efforts of a single scientist. It is a specific remedy against a group of diseases caused by protozoon spirilla; it is a spirillocide. Ehrlich's chemotherapy is based on a few comparatively simple assumptions. He assumes that a substance exerts a definite action on a living animal cell only when it becomes intimately connected with this cell or fixed by it, and this can only happen when the cell has a receptor for it, which he calls a chemoceptor. Various cells have various chemoceptors, and when a chemical substance is introduced into an animal body it becomes unevenly distributed among the tissues, according to their receptive powers. If the pathogenic organisms in the system possess special chemoceptors for certain substances they would take up such substances instead of their being taken up by the cells of the host, and if their being thus taken up is destructive to the special microorganism it would lead to its extirpation in the system. By successive attempts at introducing chemical substances to be taken up by certain microorganisms such organisms might be destroyed, leaving the animal host comparatively unaffected. This was Ehrlich's method, and salvarsan was the result of the 606th attempt with the arsenical preparations, it being found especially destructive to the spirillum causing syphilis. It destroys all spirilla, however, and differs from mercury in this respect, the latter being inimical only to the syphilitic parasite and also, unlike salvarsan, causing cachexia in the patient, which is a serious drawback. It has also been found that, in contrast with certain other arsenical spirillocides, salvarsan does not produce strains of spirilla resistant to its effects. In human syphilis, however, one injection is not found to be always curative, and the above facts show that it is not necessary to try to destroy the whole of the parasites at one injection. For this reason Meltzer advises the administration of several small doses at regular intervals into the lumbar muscles, in very dilute solutions. In this way he thinks it may be possible to prevent local and general by-effects as well as relapses, and this method could also be utilized by the general practitioner.



RADIOGRAPHY.

E. M. Sala, Rock Island, Ill. (*Journal A. M. A.*, June 10), points out the advantages gained for modern medicine and surgery by the use of the X-ray in competent and experienced hands. The failures and difficulties of beginners in its use are admitted. He says that he himself spent six years trying to take a picture of a hip-joint before he succeeded in getting one he would dare exhibit without an apology. In fractures our results before the introduction of the X-ray were largely problematical. The fracture would be adjusted so that the part looked all right and allowed to go at that, but things are different today. The X-ray may show us a very imperfect adjustment of the bone which could not be otherwise detected. It is a great source of satisfaction now that we can, with the aid of the ray, be able to adjust the bones correctly if they are not in place and detect a fracture where a simple sprain might have been diagnosed. Many amputations refuse to heal readily and the cause is detected by the radiograph. We can also determine the course of the ureters with a metal catheter inserted. With bismuth we can outline the stomach and our knowledge of the thoracic cavity is greatly extended. He illustrates and explains in sixteen cuts the various conditions which may be revealed. The X-ray will eventually lessen the number of cripples heretofore unavoidable.

RINGWORM OF THE SCALP.

The X-ray treatment of ringworm of the scalp is strongly recommended by L. D. Bulkley, New York (*Journal A. M. A.*, June 10). While not so successful as he could wish with the method as yet, he was so profoundly impressed with the results he observed in London and Paris under Fox and Sabouraud that he does not hesitate to urge its use wherever it can be properly carried out. Of course, the personal equation and experience of the operator are great factors in the success, but he believes that there are many who can learn to apply the method. He describes the applications as made by Sabouraud, Fox and Adamson, and Sequeira. The use of Sabouraud's pastils, as well as clocks for regulating the time of exposure, the

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necessary clipping of the hair, etc., are described in detail. The unanimous opinion, after the discussion of the subject in the British Medical Association, was that the treatment has been perfectly harmless in many thousand cases where the method was employed. As to the mode in which X-ray cures ringworm of the scalp, it is generally agreed that it does so by the complete depilation and not by killing the parasites. There are no trichophytic hairs left to spread the infection, a little while after the X-ray exposure. The baldness is not permanent, the hair returning in six weeks or so after the treatment. The article is illustrated.

PIX CRESOL.

Pix Cresol, the name of a preparation exploited under extravagant claims as a germicide, is discussed by W. A. Puckner and W. S. Hilpert, in the Propaganda for Reform Department of *The Journal A. M. A.*, June 10. Inquiries regarding the composition of the substance and the fact that an unknown chemical formula was assigned to it, caused the Association's laboratory to investigate it. Two examinations were made, and in each case it was found that Pix Cresol was a mixture of oxyquinolin sulphate, potassium sulphate and milk sugar. An analysis made independently disclosed the presence of oxyquinolin sulphate and milk sugar, but not of potassium sulphate. These results indicated that Pix Cresol contains, as its essential ingredient, the substance known under the proprietary name of Chinosol. Old specimens of Chinosol contained oxyquinolin sulphate and potassium sulphate, while the newer samples of this preparation consist of oxyquinolin sulphate alone. It appears, therefore, that Pix Cresol is merely Chinosol mixed with a large amount of inert substance, namely, milk sugar.

DYSCHROMATOPSIA IN BRAIN TUMOR.

After referring to a former article (*Johns Hopkins Bulletin*, June, 1911), in which they had related that reliable perimetric observations had been made in 123 cases of cerebral tumor and the findings observed, H. Cushing and G. J. Heuer, Baltimore (*Journal A. M. A.*, July 15), give specific illustrations of the cases showing dyschromatopsia, and correlate them as far as possible with the stages of advancing choked disk, laying special emphasis on the field deviations occurring with or antecedent to the earliest fundal alterations. They divide their cases into three groups: first, those where, with total absence of even beginning choked disk, there was equal bilateral color interlacing; second, those in which there was definite unilateral color interlacing; and, third, those in which the interlacing coincided with a low grade of choked disk but disappeared after decompression, before the subsidence of the edema. Cases illustrative of each of these types are reported in detail. They reproduce Dr. Marcus Gunn's description of the various stages of choked disk and report cases illustrating the stages. They summarize their paper in the following: "Out of the 123 cases in our tumor series, in which perimetric observations could be made, fifty-three showed simple color-interlacing or inversion with more or less constriction of the field boundaries. In ten of these fifty-three cases the dyschromatopsia either actually preceded any recognizable ophthalmoscopic change in the eye-grounds or accompanied

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the most incipient stages of choked disk. These distortions of the color boundaries, therefore, promise to be of some service in the making of a more precocious diagnosis of an increase of intracranial tension than is commonly ventured on. Thus, in a number of cases of early tumor extirpation, color inversion and interlacing, in addition to attacks of Jacksonian epilepsy, were the only indications of the lesion. The perimetric deviations, observed before and after operation, in the remaining forty-two cases of simple dyschromatopsia we have attempted to correlate with the accompanying grades of choked disk, subdivided into six groups, according to Marcus Gunn's classification." The article is illustrated.

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INTRA-OCULAR NEOPLASMS.

Five cases of intra-ocular growths in children and one of iridochoroiditis stimulating an intra-ocular neoplasm, are reported (*Journal A. M. A.*, July 15), by F. Park Lewis, Buffalo, N. Y. He says that malignant intra-ocular growths in children are, as is not the case elsewhere, in their beginnings encapsulated. If they are discovered early enough, therefore, life may be saved by enucleation, but if not discovered until the orbital or extra-orbital tissues have become involved a horrible death may be expected. While rare it is probable that if all cases were reported the aggregate would not be so small. The etiology is still uncertain. Some facts suggesting heredity have been reported but Lewis thinks it more probable that a congenital fetal defect may predispose to their development from "rests" as suggested by Cohnheim. While much has been written concerning retinal glioma, no specially new facts have been developed that change existing views in regard to its nature. He publishes his four cases of this disorder, not to add to pathologic knowledge, but to call attention to the condition and urge the more general reporting of such when they occur. Every case should be reported and, if possible, a section of the tumor be made and its character determined. By calling attention to its manifest characteristics it may be possible for others to make the diagnosis before the growth passes outside the eye-ball, and the patient's life be saved. The yellowish reflex from the depths of the vitreous originated the name given it by the earlier writers of "amaurotic cat's eye," and if a light is allowed to shine into the large pupil the whitish reflex coming from behind the lens is almost absolutely characteristic. When seen, skilled advice, if possible, should be obtained at once. It is quite different from the whitish color of a cataract or the surface opacity of a leukoma. It may indeed be confounded with plastic deposits in the vitreous from the uveal tract, but these are rare in young children and, when occurring, the usefulness of the eye is probably already lost. The first three cases reported are of interest as being typical of this form of neoplasm. The fourth, having its origin in the optic nerve, is very rare. All these cases occurred, as glioma almost invariably does, in children under four years of age. The fifth case was one of melanosarcoma in a boy 13 years of age. There is no evidence as yet of a recurrence. The sixth is of interest as being the result of uveitis, possibly prenatal developing a glaucomatous condition of the eye and simulating an intra-ocular tumor. The diagnosis was only possible after operation and examination.

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Treatment of Colitis.

Hawkins, in opening a discussion on colitis before the Medical Society of London, England, said that the disease presented a wide range of severity, varying from a few days of mild diarrhea to a violent hemorrhagic diarrhea approaching in severity to tropical dysentery, and ending fatally in a few weeks. In considering the effect of treatment, it must be realized how often a short, severe attack with profuse hemorrhage might subside under almost any treatment, and yet if followed up would be found to recur and prove fatal. Caution was necessary, therefore, in recording cures. He had seen good results from the Shiga-Kruse serum of the Lister Institute, and he would certainly use it in all acute cases with hemorrhage. He had heard of cases in which improvement or cure had been attributed to a vaccine of the patient's bacillus coli or coliform bacilli, but in a considerable number of his own cases he had never seen any result. Much could be done towards cleansing the bowel, and appendicostomy-flushing had great advantages over rectal irrigation.

In the various forms of ulcerative colitis he used normal saline, boric acid, hydrogen peroxide, silver nitrate, and adrenalin. In some cases, however, he had no doubt that a right colostomy afforded the only chance of saving life. In recommending this, one must be guided by an estimation of the gravity of the condition, and it was very easy to be too late. He thought it must be recommended in spite of the probability that the use of the colon would never be regained. He had had only one permanent cure after colostomy and subsequent closure of the opening. He had seen a few cases in which removal of the appendix might perhaps have ended the colon disease.

Dr. Hawkins has used sour milk in all ways —by mouth, as an irrigating solution, through an appendicostomy and per rectum, and he never has seen any result. However, he believes it a wholesome diet. As regards drugs, he uses nothing but calomel and opium, combining them in various proportions according to the severity of the case and the result obtained. It is remarkable how well the calomel is borne for long periods of time.—*The London Medical Lancet.*

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THE TREATMENT OF CALCIUM OXALATE DEPOSIT FROM THE URINE.—In discussing this subject Maguire (*Lancet*, November, 1909) says that it is proved that a calcium oxalate calculus can be dissolved both outside the body and on living urinary passages by acid phosphate of sodium in such a strength of solution as can be produced in the urine of the human subject by the administration per os of an easily supportable dose of the salt. Since in the laboratory experiment successful solution was obtained by such a strength of phosphates as was determined in the urine after the administration of but 1 ounce per diem of acid phosphate, it would seem unnecessary to exceed this amount as a dose. It would be desirable that a pure acid phosphate of sodium should be used instead of the mixed compound now dispensed as such. Further, it must be remembered that a calcium oxalate calculus rarely consists of that salt alone, although in all probability it did so in the case he describes, thus explaining why no residue was passed. The stone used in his laboratory experiment had merely a uric acid nucleus, which when deprived of the surrounding oxalate would have caused no trouble in the urinary passages. But it is well known that stones occasionally consist of alternate layers of oxalate and of uric acid. It is conceivable, therefore, that in attempting to dissolve a stone one might have to alternate the solvent, removing the oxalate by acid phosphate of sodium, and then trying to dissolve the uric acid by giving alkaline potassium salts, as recommended by Sir William Roberts.

Finally, the author would recommend that in all cases of prolonged deposition of calcium oxalate in the urine occasional doses of acid phosphate of sodium should be given to dissolve the deposit and so prevent the formation of a calculus. If "nervous" dyspepsia were the cause of the condition the phosphate so given would do no harm, but whether, if given continuously, it would influence the production as well as the deposition of oxalate is a matter which is worthy of investigation, but on which the author has as yet no information to communicate.

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VOL. XVII. SEPTEMBER 15, 1911. NUMBER 9.

ORIGINAL ARTICLES.

EPIDEMIC POLIOMYELITIS IN THE LIGHT OF RECENT LABORATORY RESEARCHES.

BY

GODFREY R. PISEK, M. D.,

Professor of Pediatrics, Med. Dept. Univ. of Vermont; Adjunct Prof. of Children's Diseases, N. Y. Post Graduate Med. School.

The subject of epidemic poliomyelitis has been quite constantly before us in the medical press during the past few years, and a formidable literature has been amassed.

The time perhaps is opportune for a review of the subject by one who has been intensely interested in the disease and who has had an ample opportunity to study it clinically during the New York epidemic and since. I may be pardoned therefore if I presume that I am in a position to pick the wheat from the chaff and perhaps inject such personal expressions of opinion as have had their foundation in clinical experience.

The general practitioner must have constantly in mind a clear picture of the disease for although the local epidemic is over there are a large number of sporadic cases occurring constantly. The surgeon general's report estimates that more than three thousand cases occurred in twenty-three of our states during the past year; while in my state fifty-two deaths have been reported during the last three months from twenty-nine counties.

Moreover it is time that we abandon the description of the disease as it appears in many of the older text books. In fact these classical descriptions which every one turned to when the epidemic was rampant only caused confusion in diagnosis because of the different types the disease assumed in the epidemic form.

The disease was first described by Heine in 1840, and no contributions of importance were added until the epidemics in the north countries of Europe, in America, Austria and Germany were carefully studied clinically and research work instigated in the laboratories.

The early symptomatology and etiology could only then be carefully worked out for sporadic cases do not lend themselves to such study and analysis.

To-day we know that the disease is caused by a virus. Landsteiner and Popper were the first to succeed in inoculating the disease into monkeys. They used an emulsion of the spinal cord which was injected intraperitoneally. These animals died of the disease in six to eight days and on autopsy there was found an inflammatory infiltration along the anterior fissure. Landsteiner and Levaditi produced the disease in a chimpanzee and were able to pass on the virus from this animal to other monkeys.

Flexner and Lewis in this country and Romer in Germany have obtained similar results and stamped it as a zymotic disease.

Inoculations into other animals, as rabbits, have not been successful except in causing their death. However this work led to a study of the question of transmissibility and to isolation of the virus.

Lenier and V. Wiesner showed the possibility of infection through the mucous membrane of the respiratory tract as well as by inhalation and after trauma produced to the nasopharyngeal tract. They later produced paralysis of an extremity by intraneural injections into its nerve supply. Romer and Joseph also were able to produce a paralysis of the right extremity by inoculations of the left ascending parietal convolution.

From studies made by Flexner we are led to believe that the virus has a varying incubation period; the longest being thirty-three days and the shortest time four days. The paralysis follows the initial symptoms in from six to twelve hours.

Several significant practical points can be drawn from the work of these workers. The virus while present in largest amounts in the spinal cord and brain is also to be found in the spinal fluid and parenchymatous organs. It can also be demonstrated in the blood.

We have also learned that immunity is conferred on an animal once inoculated with the disease. The writer has repeatedly been questioned regarding a curative serum and replies

by saying that no bacterial organism has ever been isolated, that this particular virus which has the property of passing through a Berkefeld filter is in all probability of the protozoan class. It may well be compared to the virus of rabies. It is like it in infectiousness and can also be preserved in glycerine.

In spite of the fact that in New York City some 2,500 cases were seen and their histories studied by a committee appointed for the purpose, we are not yet sure of the manner in which the virus is transmitted. We *can* say that it is the exception for this transmission to be direct. In a fairly large experience I saw only one family in which two children were affected, and while at first we did not attempt to isolate the cases and placed them in the general ward of the hospital no case ever developed among the other children.

A study of the symptoms of the disease as it occurred in different epidemics makes one think of the varied manifestations produced by the influenza bacillus from year to year. In some instances gastrointestinal symptoms predominated; in other respiratory phenomena. As a type we may say that fever is a constant symptom although rarely high. A careful observer may note initial symptoms of restlessness, peevishness and sleeplessness. Headache may be complained of, or its presence noted by observation. Nausea and vomiting with diarrhea are initial symptoms which often mislead the physician, throw him off his guard and cause him to give a favorable prognosis. If in such a child, pain can be elicited which is moderate when the child lies quietly but aggravated when any action is attempted, our suspicions should be aroused. Further careful tests will show that the hyperesthesia is quite general and that even passive movements may cause intense pain. To these symptoms in the epidemic form there are often added those which we attribute to irritation of the cord in our cases of meningitis, namely: rigidity of the neck, Kernig's sign and a Babinski reflex. These phenomena when observed in the sporadic cases are generally unduly emphasized and a mistaken diagnosis of meningitis is made.

We have also learned that the paralysis need not affect the muscles suddenly, but that one group after another may be slowly involved; and we have even observed relapses after apparent regeneration was taking place.

However in the typical case the greatest degree of paralysis is reached in a few days. In extent we may have almost every muscle group in the body affected or, in slight attacks, only one group or a single muscle may show the paralysis. Such a mild case was seen by the reader this winter in the son of a physician.

On the other hand, the facial nerve alone may be attacked giving us a persistent facial paralysis. Involvement of muscle groups which play a part in the vital functions of the body are to be classed as extremely dangerous. Among these are disturbances of breathing, deglutition or mastication. When carefully analyzed these are found to result from bulbar involvement and enough cases have occurred to differentiate a bulbo-pontine type of the disease.

Still more puzzling unless one is aware of the possibility is the rapidly ascending type of paralysis which we have all known as Landry's paralysis. This disease in the light of recent findings may well be considered a form of poliomyelitis.

The character of the palsy in epidemic poliomyelitis is well known to you as of the atrophic degenerating form, with severe vasomotor and trophic disturbances always giving the reaction of degeneration. That there is a tendency to progressive improvement in the muscles we remember when giving the prognosis, but it is of little assistance to us in the immediate diagnosis. One of my earliest and most interesting observations in our recent epidemic was that a well marked paralysis may completely disappear. This view was energetically opposed by our orthopedists who reasoned from experience in sporadic cases that it was impossible. However, statistics later showed that such complete restoration took place in 5.3% of the cases reported. Most interesting are those cases in which there has apparently been a general infection. Here the meningitic symptoms are apt to predominate. The motor phenomena however precede the sensory. The mentality is merely blunted, stupor or coma does not intervene until the very end. These cases are dangerous to life, but if a recovery is made they rarely leave a permanent paralysis.

They need to be differentiated from epidemic cerebro-spinal meningitis which rarely has so mild an onset and which early gives evidences of cerebral pressure. Lumbar puncture should

be made in doubtful cases when a clear or only slightly clouded fluid in poliomyelitis will be obtained containing many lymphocytes while in cerebro-spinal meningitis the collected fluid Besides the specific microorganism shows many leucocytes, at first mononuclears, later polynuclears. Further help can be obtained by a study of the blood. In the acute stages of poliomyelitis Gay and Lucas have demonstrated that the leucocyte count shows a consistent and early fall.

Rheumatism was incorrectly diagnosticated in the early days of the epidemic before the attention of the profession was called to the symptoms. A careful physical examination and the early loss of reflexes, should easily differentiate it. Polyneuritis however offers greater difficulties and as its manifestations differ from the adult type it is worthy of special mention here. The pyrexia is more marked and the fever continues even after the appearance of the paralysis. Polyneuritis also passes from the distal to the proximal muscles, but the degree of paralysis is not so great as in poliomyelitis. The pain in neuritis is spontaneous in nature and aggravated by pressure over the nerve trunks.

Besides a clear conception from the clinical standpoint we have broadened our knowedge of the pathology of the disease. It has been conclusively demonstrated that the lesions are not limited to the cells of the anterior horn but may be also found in the posterior gray substance, in the white column, in the bulbo-pontine and even in the cortical regions of the brain. Changes have also been described in the spinal ganglia and peripheral nerves. It is evident therefore that the disease affects quite generally the entire nervous system causing inflammatory interstitial changes in the ganglion cells which degenerate in varying degrees or disappear altogether.

We are justified, I believe, in concluding that the virus has a selective action for the cells in the anterior horn but that the degree of infection, and the virulency of the particular epidemic, control the amount of destruction.

The mortality has differed in various epidemics thus: Wiekman reports 14.1 per cent.; Krause reports 15.1 per cent.; Zappert reports 10.8 per cent.; while in the New York epidemic it was 6.7 per cent.

These figures, and the constant outbreaks in different parts of our country emphatically bespeak the need of quarantine regulations and prophylactic measures, which should be uniform and rigidly enforced.

Contact with naso-pharyngeal secretions from infected individuals may cause the disease. Domestic animals, dogs, chickens and horses are in my opinion neglected carriers. This belief I have held since studying Caverly's report in the Rutland valley. They themselves do not succumb except to virulent infection but they may carry the virus to susceptible individuals. Romer and Joseph have destroyed the virus with fumes of formaldehyde gas by the usual methods after seven and a half hours so that it was inert when injected into monkeys. Careful non-irritating disinfection of the nose and mouth of patients and of other exposed individuals is therefore advisable.

If quarantine regulations as strict as we apply to scarlet fever were enforced for three weeks we would, I believe, lessen materially the spread of the disease, for even if the child does not die the economic loss caused by the crippling demands that every precaution be taken.

Undoubtedly the most important indication in the treatment is rest in bed. This applies to all cases while they are in the acute stage which will be indicated by the fever and pain which is still present. Contrary to the dictum of most orthopedic surgeons prolonged rest in bed is in my judgment not wise and only tends to delay normal body restitution.

The dietetic and general management does not differ from that of any other acute condition. The detailed management differs however according to the type of the disease. The writer treats certain cases of the cerebral type as he would a case of meningitis; on the other hand slight muscle group involvements are urged to put the part to functional use just as soon as possible; keeping up the circulation by kneading-massage and vibratory treatment, local, spinal and epiphyseal. The vast majority will need corrective appliances early; perhaps even while still in bed to prevent deformities.

Muscle balance is the keynote in the orthopedic treatment and later in the chronic stage. Fixed deformities if they have developed must be corrected by the orthopedic surgeon.

The following treatment should be systematically carried out before the cessation of natural regeneration as it will prevent deformities and sometimes result in a complete cure.

(1) Maintaining the affected parts in a healthy condition by massage, by hydrotherapy and from temperature changes. (Nutt).

The massage should be skillful and scientific, performed each day for ten minute periods, followed by vibratory massage especially over the epiphyses when the extremities are affected.

Then hydrotherapy should follow which tends to stimulate the vasomotor apparatus and supplant the trophic changes. Alternate hot and cold douching with sea salt solution is most effective and the little patient soon gets to like it.

(2) Next in importance is the preservation of the normal range of motion in all the joints.

Passive movements regularly performed will preserve the normal range and a few minutes spent after the douching is well repaid by the results achieved.

If we all profit by the new facts which have been developed by study of this disease, the sting of this terrible scourge will be mitigated.

Death from Taking Fifteen Grains of Veronal.

The British Medical Journal records a case of accidental death from veronal poisoning. The number of deaths following the administration of this commonly used sleep-producing drug has reached an appalling figure, such, indeed that the *London Lancet* recommends that restrictions be placed upon its sale. In this particular instance the victim of the accident was a lawyer who had suffered for some time from insomnia and sometimes took drugs for its relief. At 3 a. m. he took fifteen grains of veronal. At 7 a. m. he became unconscious, and in spite of competent medical assistance, died about 9 a. m. —*Western Med. Review.*

A tender-hearted little girl was looking at a picture of Daniel in the lions' den. She suddenly began to cry, whereupon her mother said:

"Are you crying for the poor man, dearie?"

"No; I'm crying for the little lion over there in the corner. He isn't going to get any at all." —*Exchange.*

AN OPERATION FOR HYSTERECTOMY.*

BY

DR. S. E. MAYNARD,
Burlington, Vt.

Mr. President and Gentlemen of the Gynecological Section of the Canadian Medical Association:

Allow me to express my deep appreciation of the great honor of addressing you today and to assure you of the sincere friendship and respect which all medical men of the States feel for their Canadian brothers.

The crowning glory of medicine is, that throughout the world her call has brought into the ranks good men and true who are working shoulder to shoulder for the prevention and cure of disease.

My subject today is not new, has little of originality in it and perhaps but little to command your interest, simply giving my experience in attaching the ligaments to the cervix in supravaginal, and to the vagina in panhysterectomies, with the pros and cons. It can, however, be briefly considered and it would not be right for me to take your valuable time by presenting a long paper.

The early operators were chiefly concerned with the intra- or extra-peritoneal method of treating the stump, but it was soon learned that where the former method was used the peritoneum should be stitched over the stump of the cervix thus preventing the intestines from becoming adherent to it (Greig Smith, 4th Edition, page 250), and so gradually the usual method of hysterectomy was evolved where all raw surfaces are covered and stumps buried.

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*The paper was one which Dr. Maynard had prepared and was to read at the annual meeting of the Canadian Medical Association at Montreal, June 8, 1911. The paper was not entirely completed and is published without correction.

Dr. Maynard sent out letters of inquiry to the patients upon whom he had performed hysterectomy, using the operation described in this paper.

He asked for their present condition, health since operation, and if the symptoms previous to the operation were relieved.

He received seventy-three replies. In 56 of these, (76.7%) the patients all stated they considered themselves cured and were relieved of all symptoms for which they sought relief by the operation. Eleven (15%) reported themselves much improved and gaining. Six (8%) said they were no better.

All of the cases who had not passed the menopause noted the fact and mentioned in their replies that they had passed through that period.

Later on Dudley, Webster, Kelley, Noble, Mayo and others began attaching the round, or the round and broad ligaments, by different methods to the stump of the cervix.

Dudley operates so there is a right and left lip to the cervix and after it is closed draws the ligaments together over this.



Fig. 1. Dudley's Practice of Gynecology. Showing right and left lips of amputated cervix ready to close.



Fig. 2. Dudley's Practice of Gynecology. Broad ligaments being drawn together.

Kelley and Noble suture the round ligaments into the outer ends of the incision in the cervix which has anterior and posterior flaps, the middle of the wound in cervix being closed by a mattress suture.

It was not until about six years ago when I first saw Dr. Wm. Mayo attach the ligaments to the cervix that I began following his technique, which with some modifications, is practically the one I wish to describe here.

After the abdomen is opened and the patient placed in Trendelenberg position, the intestines being gotten well out of the way, the ovarian vessels are clamped as near as possible to the ovary and the round ligaments as closely as practical to the uterus. A clamp is then placed at the side of the uterus to control the uterine anastomosis. The broad and round ligaments on each side are now cut away and anterior and posterior flaps of peritoneum are formed, where it is possible going as high on the anterior and posterior surfaces of the uterus as practical to outline these flaps which are separated mostly by blunt dissection.



Fig. 3. Uterus amputated, leaving an anterior and posterior lip.
a, left round lig.; c, right round ligament; b, forcep on anterior lip of cervix, holding up cervix; d-f, ovarian vessels; e, uterine vessels.

The uterine vessels are now clamped and cut and the body is amputated at or about their level cutting the lower end wedge shape so that the remaining cervix has an anterior and posterior lip. The cervical canal is now cauterized with pure carbolic acid, followed by alcohol and the cervical lips sewed with a continuous suture, checking hemorrhage and shutting off the cervical canal. The uterine vessels are now ligated by stitching through the outer angles of the cervix and tying, thus securing them to the cervical stump; a second ligature is usually applied to the uterine arteries.

The round ligaments and ovarian vessels are now ligated, avoiding as far as possible mass ligatures. The round ligaments are next sewed together and stitched to the anterior cervical



Fig. 4. Vessels ligated. Round ligaments ready to be stitched together and into the stump of the cervix.
a-b, ovarian vessels; c-d, uterine vessels; e-f, round ligaments; g, figure of eight stitch in cervix before tying.

lip, taking care to do this ahead of the suture line. As the cut borders of the broad ligaments lie together they are sewed one to the other as far back as it can be done without tension, which in some cases will include the ovarian stumps and in some cases these will have to be buried separately. We now suture the broad ligaments to the posterior lip of the cervix and



Fig. 5. Broad and round ligaments sutured to stump of cervix and flaps of peritoneum stitched together, covering all raw surfaces.

close over the posterior flap, and the anterior over this, or stitching them together as seems best, thus covering all raw surfaces.

In case where a complete hysterectomy has been done in non-malignant cases, I have closed the vagina with a suture and after whipping the round ligaments together sewed them to vagina, avoiding the suture line and closing over the peritoneal flaps as before.

Some points which have been urged against this method of procedure are:

First. The danger of hemorrhage from drawing upon the broad ligaments should they break loose.

Second. Pain from pulling upon the ligaments.

Third. Length of time required to do the work.

The first and second points need not be considered as counting against the operation provided we do our work carefully and avoid undue tension. The broad ligaments may be brought in under considerable tension and will give no more discomfort than is commonly felt after a Baldy-Webster operation.

A full curved round needle without any cutting edge such as the Mayo intestinal needle greatly assists in this work and with it we get little hemorrhage while sewing.

As to the length of time consumed, it may take a few minutes longer to secure ample flaps of peritoneum in some cases, but I doubt if any more time is required to close up than by other methods.

The advantages of the operation are:

First. It checks all hemorrhage without mass ligatures.

Second. Dead spaces are obliterated.

Third. All stumps are buried and raw surfaces easily and quickly covered.

Fourth. The cervix, bladder and rectum are held in practically normal position and although the ligaments must atrophy somewhat, they, together with the flaps of peritoneum, give a normal condition of the pelvic floor and assist in preventing sagging and I have yet to see a case of prolapse of these organs following this operation.

In consequence of the stronger support there are fewer complaints of lower abdominal weakness both directly upon getting up and subsequently, the patient usually says she feels natural.

I cannot emphasize too strongly the importance of restoration of the pelvic floor which can usually be done before the abdominal work.

Most of the supravaginal operations reported had a trachelorraphy or perineorrhaphy, or both done at the same sitting.

ANTERIOR POLIOMYELITIS.*

BY

DR. F. E. STEELE, JR.,

Waterbury, Vt.

Mr. President and Gentlemen of the Society:—

At the invitation of our Secretary, Dr. Colton, I am to bring to your attention tonight a subject which has been quite freely discussed during the fall months by the press and laity as well as by the profession, both in society meetings and as a general topic wherever two doctors have gotten together. I refer to anterior poliomyelitis which developed with unusual frequency, endemically and sporadically throughout certain sections of New England and other eastern states during July, August and September and which, as we might expect is on the wane with the coming of the colder months.

Very little of what I may have to say has been gleaned from personal observation, having seen but one case and that through the courtesy of Dr. Bidwell for whom I conducted the treatment during his recent absence in New York.

Before 1907 epidemics of infantile paralysis were rare in this country. There was one in New Orleans in 1841 and again about thirty years ago the disease was reported but it was otherwise not especially noted up to very near the beginning of the present century. In 1894 Dr. C. S. Caverly reported 132 cases as occurring in Rutland County, Vermont, and during the past four years the disease has prevailed throughout our country; probably but few states have been altogether exempt and Cuba has also been visited.

In a single epidemic which visited New York City in 1907, 25,000 cases were reported. The southern Hudson region, with the surrounding lowland sections, suffered also. There was in that year, moreover, cases in 136 of the 354 cities and towns of Massachusetts, the infection having been relatively much more prevalent in small towns than in the cities and large towns.

Regarding the occurrence abroad there was a marked epidemic in Sweden in 1905; two in Australia in 1903 and 1908 and an extensive epidemic in Prussia in 1909. The disease has for several years past been prevalent in Scandinavia and it is not likely that other European countries have wholly escaped.

The disease is variously termed acute poliomyelitis, infantile spinal paralysis and acute atrophic paralysis. The nature of the difficulty seems to be this: it is an infection characterized by inflammation, especially of motor neurones, in the anterior horns of the spinal cord, though the medulla and pons above and even the cerebrum may be involved. Succinctly said it may be defined as an acute inflammatory process taking place in the anterior horns of the spinal cord, accompanied by a sudden and complete paralysis of various groups of voluntary muscles, followed by a rapid wasting of the affected muscles.

Recent observations and suggestions from the reports of various State Boards of Health, notably those of Kansas and Massachusetts which embraced a study of 100 and 150 cases respectively, allow this conclusion to be drawn: it is now conceded to be an infectious disease caused by a living organism so small that it can pass through the finest bacterial filter. This identifies it with the class of diseases caused by filterable virus, these being yellow fever, foot and mouth disease, pleuro-pneumonia of cattle, etc. The virus is found in the brain and spinal cord, the mucous membrane of the nasopharynx, infected lymphatic glands, in the salivary glands, and in the acute stage in the blood and cerebrospinal fluid.

The period of incubation is not clearly established, but may be from four to thirty days, usually from ten to fourteen days. One attack of the disease apparently confers immunity to future attacks. The early symptoms observed in 150 of the Massachusetts cases were fever, general pain, tenderness, vomiting and nausea, constipation, retraction of head, diarrhea, headache, delirium and convulsions. As paralysis affected the nerve supply of different groups of muscles, double vision, difficulty or inability to swallow, difficulty in articulation and diaphragmatic breathing occurred.

The motor neurones or nerve ganglion cells are chiefly concerned in receiving and transmitting impulses which control muscular movements. If the inflammation of the anterior horns of the cord proceeds without arrest the neurones degenerate, liquefy and shrivel up while the nerve fibres emanating from them

*Prepared for and read before Washington County Medical Society.

degenerate and atrophy. This process may go on to complete destruction of these parenchymatous tissue elements or it may happily be arrested at any stage. If checked early, as in the abortive cases mentioned by Crumbine or in those of very moderate severity, repair may ensue and the neurones with their fibres will regain something approximating a normal condition and function. If, unfortunately, the inflammation is progressive the size and shape of the spinal cords at the points involved will be found to be contracted and pathologically so altered that the muscles concerned become paralyzed, atrophic, degenerated and incapable of their proper and normal function. When recovery does take place these muscles usually remain small throughout lifetime.

In the less severe cases spontaneous improvement begins in from ten days to two weeks and usually at the end of three months according to Gowers all the spontaneous improvement which is to be expected has occurred. As a help to prognosis it may be stated that muscles which at the 10th day of the disease do not respond to Faradism are certain to waste rapidly and severely; if completely lost for over six months improvement need not be expected.

The little patients suffer also retarded bone growth, deformity of the joints involved, "drop foot," sometimes lateral curvature of the spine, imperfect circulation and generally impaired bodily nutrition. From 8 to 15% of these cases die; and three-fourths of those stricken who survive are more or less crippled for life. By far the greater number of victims are, of course, infants and children from one to five years of age—though not all, for deaths from anterior poliomyelitis at 60 and 63 have been recorded.

The outlook is then fairly good as to life but the severity and fatality of the infection fluctuate widely in various epidemics and localities and it is certainly sufficiently disastrous and melancholy to merit the anxious consideration of the medical profession as it does the grave concern of the public at large.

We are beginning to realize that this disease has a definite place in forensic medicine. The Board of Health of the District of Columbia imposes a full quarantine of two weeks on all recent cases. The Vermont State Board of Health stipulates a four weeks' full quarantine. As an illustration of how frequently the lay mind is led astray and especially the lay mind which assumes to comment authoritatively upon medical subjects, I will cite a recent editorial in one of our local papers. This editorial writer notes that a quarantine is imposed by various health boards on "recent" cases of infantile paralysis and then tries to be very pertinent when he further inquires "Why only on 'recent' cases and why not in all cases?"

It is obvious that he did not understand the meaning of recent cases as synonymous with acute or new cases and was totally unaware of the probable period of the disease's contagion.

Isolation of the patient is to be enjoined and particular care should be taken to disinfect all dejecta and mucous discharges from the vasopharynx and upon raising the quarantine formaldehyde gas fumigation should be done by the health authorities.

TREATMENT.

A description of the early hygienic treatment including a description of the patient's room and its ventilation would be quite unnecessary and inane. At present the administration either by mouth or subcutaneously of any drug or remedial agent at our command is of very doubtful value. In the acute stage free perspiration induced by hot baths, keeping the lower bowel relaxed, the patient in a lateral position and counter irritation to the lumbar spine with mustard comprises our armamentarium.

One might be pardoned for indulging in the dream of finding some animal upon which the administration of specific virus confers an immunity and the subsequent recovery from this animal of a serum specific in the malady. This, combined with a definite early diagnostic point, would be an ideal triumph and in view of other achievements along these lines is quite within the pale of our human possibilities.

At the end of two or three weeks, or after all acute symptoms have subsided, electricity may be used with undoubted benefit, but its curative effects have been greatly overestimated. The object in the employment of the Faradic current is to keep up the nutrition and tonicity of the muscles until the cord has recovered as much of its normal function as it will, which recovery is almost certain to take place in some degree.

No amount of electrization, however, can preserve muscles whose ganglion cells have completely disappeared. These continue to

waste and lose their Faradic contractility, no matter how early electricity is begun or how faithfully it is continued. Faradism may be used for such groups as respond to it; otherwise galvanism should be employed. The beneficial results from electricity are obtained during the first nine months following the subsiding of the acute symptoms and its routine use in cases which have been paralyzed for two or more years should be condemned.

Friction and massage are useful to improve nutrition and circulation and should form a part of the routine treatment as we now understand it.

Finally I wish to acknowledge the following literature to which I have frequently referred in the preparation of this paper.

"Infantile Paralysis: a Menace," John B. Huber.

Reports of Vermont, Massachusetts and Kansas State Boards of Health and "Diseases of Infancy and Childhood." L. Emmett Holt.

I thank you for your attention.

THE SINGLE ROD AXIS TRACTION FORCEPS.*

BY

G. L. T. HAYES, M. D.,
Graniteville, Vt.

Since the days of Levret and Smellie the obstetric forceps has undergone all sorts of improvements and modifications but it is still considered far from being a perfect instrument. Axis traction forceps are the natural outcome of improvements in ordinary forceps. In 1767 Stein of Cassel foreshadowed axis traction forceps. He passed a cord through the fenestrae of his forceps and made traction by it. In 1860 Hubert invented an axis traction instrument in which the axial force was applied by a bar extended in the arc of a circle perpendicularly downward from the handle near the lock. Tarnier introduced his axis traction forceps in 1877. He is considered the true inventor of axis traction forceps and is said to have destroyed ninety-nine models before he accepted the one hundredth as entirely satisfactory. Tarnier's is the axis traction forceps mostly used in this country, Milne-Murray's and Neville's are the instruments mostly in use in the British Isles.

Ordinary long forceps properly used should pull very nearly in the axis of that part of the pelvis through which it is desired to draw the head at the moment, but this action can be more powerfully and accurately produced by mechanical arrangements in the forceps; by means of traction rods or tractors direct traction is possible in the axis of the brim without any loss of power. Formerly a way of obtaining axis traction was by bending the handles back over the perineum, a method first introduced by Johnston in 1769; or by making a bend in the shank of the instrument as in Galabin's forceps when the handles run in the line of the brim axis. Another method is by the well known Pajot's manoeuvre, by means of which the tendency to pull the head against the symphysis is counteracted. The great objection to all these methods is that the forceps is not free to follow the movements of the child's head. Axis traction apparatus is so jointed that the forceps is free to rotate and follow the movements of the descending head while traction is being applied. It is the application of the traction force directly in the proper line and the freedom of the forceps to follow the movements of the head which constitute the enormous advantages of axis traction forceps. In the modern and properly constructed axis traction forceps, the head guides the forceps, while in any pattern of forceps without an axis traction apparatus the forceps guides the head. In ordinary forceps the pull is much anterior to the true axis of the pelvis consequently the head is dragged against the back of the symphysis and is therefore a retarding instead of an accelerating force.

Neville's axis traction forceps is a Barnes forceps to which is attached Neville's axis tractor. This axis tractor is a single rod which is fastened to the forceps at the handle side of the lock, the same fastening serving as the connecting tie between the blades. This traction rod has three joints, one permitting a vertical movement, one permitting a lateral movement and one at the handle permitting rotation. In order to know in which direction to pull you have to watch the arrow head indicator which is to be kept in opposition to the pointed end of the rigid portion of the traction apparatus.

A great many practitioners as a rule ignore the advantages offered by an axis traction for-

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ceps, chiefly on account of the difficulty experienced in applying them. In the double rod forceps each blade has to be introduced with the rod attached and occasionally there arises some difficulty in locking. For this reason a great many practitioners have preferred to do without axis traction altogether. A great advantage in the single rod over the double rod is their greater simplicity in application, because with them the forceps can be first applied to the head as in applying ordinary forceps, then the traction rod can afterwards be easily attached. The objection has been brought against Neville's pattern that, because the traction rod is attached to the handles instead of to the blades, it is not a true axis tractor. The late Professor G. F. Fitzgerald, a distinguished scientist, unhesitatingly expressed the opinion that the point of attachment of the rods did not add to or take from the qualities of an instrument as an axis tractor, provided the traction was applied in the required direction. In actual practice there is proved to be no difference in the pull, both the single and double rod forceps pull in the same axis. This can be easily demonstrated with a female pelvis and a fetal head. Failing possession of these, lay Milne-Murray's forceps on a large sheet of paper about the size of a newspaper and mark their exact position; pull and mark the line of pull, and then do the same with Neville's, and you will find the track of the pull is exactly the same. As a control experiment try the same manoeuvre with a pair of ordinary forceps and note the difference. Traction rods have been known to injure the perineum and as a consequence some obstetricians recommend the placing of a Sims speculum in order to protect the perineum during the tractive efforts. This would be altogether unnecessary in the single rod instrument. The opinions regarding the properties as axis tractors of both the single and double rod forceps is to a great extent based on practical experience, more than the opinions of mechanics regarding the attachment of the rods.

The Dublin school have been using Neville's forceps for a number of years and always recommend it, as they state that from the point of view of practical experience Neville's forceps compares favorably with either Tarnier's or Milne-Murray's, in fact they say they have been successful with this instrument when others have failed.

I have been using Neville's forceps for the past twelve months and can without hesitation recommend it, especially so to the busy general practitioner who would wish to avail himself of the advantages of an axis traction forceps that can be easily, quickly, and safely applied without having to contend with the disadvantages and annoyances caused by the complicated mechanism of the double rod instrument.

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June, 1910.

Constipation, Local Medicinal Treatment in.

In cases with accumulation of hard feces in the rectum, and where the mucous membrane is dry and excoriated in places, with pieces of adherent matter, and where the sigmoid and lower end of the colon is very sensitive to pressure, exceedingly good results are obtained by systematically washing out the colon and rectum with several quarts of hot water containing a few teaspoonfuls of sodium bicarbonate or borax or boric acid. The fluid should be introduced slowly and at a low pressure while the patient is in the knee-chest position or with the hips elevated. Following such a cleansing at night, one-half a tumblerful of oil is injected into the rectum and left over night. This, by antiperistalsis, will work up into the sigmoid and colon, where it will exert an emollient effect. Liquid petroleum may be used in the same manner. M. V. Tyrode (*Boston Medical and Surgical Journal*, May 19, 1910).

Nursing Bottles with Long Tubes Forbidden.

The French Senate has forbidden the selling, the offering, and exposing for sale and the importation of infants' feeding-bottles with tubes. All infraction of the provisions of the law will be punished by a fine of 25 to 100 francs, and in the case of a second offence by imprisonment for eight days to one month.

Good. The nursing bottle with the long tube is an abomination. It is certainly an efficient cause in keeping up the infantile mortality.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D., B. H. STONE, M. D., ...*Editors.*

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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

BURLINGTON, VT., SEPTEMBER 15, 1911.

EDITORIAL.

In the reorganization of the College of Medicine, University of Vermont, one of the most important innovations is the establishment of a Chair of Preventive Medicine. One does not need to be especially keen in observation to note the signs of a general public interest in matters of sanitation. The intelligent community no longer looks upon the physician as one to heal them of their ills only, but as one whose advice is to be sought, in matters of diet, ventilation, climate, sewage disposal, and a thousand and one different matters which are now known to determine largely conditions of health and disease. Every physician who wishes to fulfill his highest duty to his patients and community should be able to give sound advice on these matters. His clientele can much better afford to pay him for a knowledge of the means of preventing disease than for an exercise of his art as a healer. Furthermore, a large number of physicians will be called upon to exercise duties of a public nature in filling the growing-important office of health officer of city, town, county or state. That these physicians require a wide knowledge of matters not commonly considered in the medical curriculum of the past, is soon obvious to any student of the situation. A glance at the program of the recent Health Officers' School held in Burlington, will give some idea of the varied problems of the sanitary officials. With the growth of methods of the spread of disease and consequent means of prevention, communities are going to demand the guardianship of officials well versed in these matters and competent to deal with the critical situations which are apt to arise. Furthermore they are going to appreciate more and more the services of such men and realize the necessity of allowing them compensation commensurate with the importance of their services. We trust that post-graduate courses may soon be established which will offer further training to medical graduates who desire to make a specialty of this public service work.

The public agitation over the conditions recently shown to exist in the Department of Agriculture is remarkable. The way in which the press of the country with almost no exception has come to the defense of Dr. Wiley in his efforts to enforce the spirit of the pure food law shows the strength of public sentiment in favor of such legislation. Whatever may be right or wrong of the personal controversy, there is no question but the American people are in a spirit to demand laws safe-guarding the public from adulterated and impure foods, and furthermore that this public opinion will support a vigorous enforcement of such laws. We sincerely trust that Congress may take cognizance of this public sentiment and pass new and stronger pure food laws which will remedy the weak places in the previous law, and which will express clearly the desires of the people to be furnished with wholesome, unadulterated and

honestly labelled foods and drugs. Furthermore, it is to be earnestly desired that after the passage of such a Federal law, the states will copy it as closely as possible. A large amount of the confusion and inefficiency of the present Federal and State laws depends upon the multiplicity of state requirements. The Federal law can only deal with those food products entering into interstate trade. It is up to the states to fortify and carry out the terms of the Federal law by enactments of their own.

Knowing something of the exceedingly important work which Dr. F. W. Sears inaugurated, and has been carrying on in the Vermont Industrial School, we have asked him to give some of his results and conclusions. We wish to urge for this informal report of Dr. Sears the careful consideration which it deserves. The facts given are certainly startling and it seems to us that some of the remedies suggested will recommend themselves to every thinking man.

THE PROBLEM OF THE DEFECTIVE DELINQUENT.

The wave of crime which has been sweeping over the State of Vermont during the past year —homicides, burglaries, and small thefts—has not only attracted the attention of the lay press, but it has also caused many thinking people to ask themselves whether there is not something amiss, either with the administration of our laws, or deeper down in our sociological conditions. Why should our peaceful hills situated so far from the rush and turmoil of modern life be the scene of many horrible homicides and murderous assaults? The answer is not easy and it seems to me that the medical and legal professions should get together and institute some form of scientific inquiry into the causes of crime in Vermont, and having ascertained the cause, they should endeavor to find the remedy. This remedy can of course only check, as it were, the exuberance of crime. It cannot entirely prevent it. As there are undoubted criminals among animals, so there will always be criminals among men. The atavistic tendencies in mankind often render the individual incapable of adapting himself to the needs of modern civilization, and with bad environment makes him a criminal. The mentally defective, especially the imbeciles of high grade, are always liable to develop criminal traits and unless better classified and more carefully kept under supervision than heretofore, will continue to form a large percentage of our worst criminals. Among this class there is an opportunity for closer scientific inquiry and for the application of modern remedies.

The best time to study the mental defectives, and in fact all criminals, is in childhood, and several months ago at the request of the State Penal Board, I began an investigation of the physical and mental conditions of the inmates of the Industrial School. It was their idea at that time that while a majority of the pupils were capable of more or less complete reformation, there was a considerable percentage who were incorrigible, and in whom they hoped there might be found some physical defect which could be remedied by operation or treatment.

About one-half of the boys and a small number of the girls have been examined, but the results of these examinations have not yet been tabulated so it is not possible to report finally on even these cases. We have gathered a few facts from which we can draw some conclusions, although these conclusions may be somewhat premature and may be modified by further investigation.

First. More than one-half of the boys are normal for their class, both physically and mentally. They are practically no different from the ordinary school boys who are found in the poorer wards of the cities. In most cases their home life and environment have been bad, but

under the honor system, which has been adopted in this School they develop a certain amount of self-reliance and should make fairly good citizens if placed in better surroundings after they leave the School. Some of these boys seem to have committed no crime, but have been sent here to get rid of them, either because their parents did not want to care for them, or because their town wished to throw the expense of their support upon the State.

Second. There is a small percentage of toughs who seem to have no physical or mental defect, but are handicapped by a bad heredity and a worse environment. They are intractable and have a grievance against the world. They may develop into the most hardened criminals or they may sometimes be reformed, and it is with this class that some of the best work of the School is being done.

The third class consists of what Dr. Fernald calls imbeciles with criminal instincts, and which the Massachusetts Board has perhaps better named defective delinquents.

In the Industrial School we have a very few low grade, a larger number of medium grade, and a goodly number of high grade imbeciles, and of course the low and medium grade imbeciles should never be sent to the School. Their mental deficiency is so marked, they are so easily led by vicious companions that the State itself commits a crime when it sends them to a penal institution. They should be placed in a separate institution and trained as feeble minded children.

The high grade imbeciles form a class the most difficult of treatment. Oftentimes they are not recognized as mentally defective, in fact many times they are considered by their relatives and friends as especially bright, but as they grow older they are backward in some studies, oftentimes failing in arithmetic. They are untruthful and dishonest, vain and self-conscious. They are bullies, but rather cowardly, and take but little interest in out-door sports. They are usually sent to the School for truancy and larceny, but in some cases have committed graver crimes. When placed out in families they are quickly returned and if sent home are soon back again for committing some crime. They make up a good proportion of the habitual criminal class. Their sexual tendencies are strong and masturbation is usual and other sexual perversions common among them, although under the present management, these forms of vice have greatly decreased. These boys either influenced by others or upon their own initiative make frequent attempts to escape, although they feel the certainty of being caught, in fact they seem willing to run great risks for very small pleasures. Their reasoning powers are poor and they are not able to count the cost. Their physical characteristics are interesting, although in general, I do not believe in special degenerative stigmata among the criminals, and I do not find any more such stigmata among the boys of the Industrial School than among other boys of the poorer classes, yet in this class are more frequently found the irregular shaped heads, the scapho cephalic and lipto cephalic heads, heads in which the index is greater or smaller than normal, and where the hair grows down on the forehead, high zygomas, prominent supraorbital ridges, ears ill-shaped and asymmetrical in size and position, asymmetry of face, high palatal arches, sores in the corners of the mouth, sometimes but not as frequently as I supposed, irregular teeth, prognathism but sometimes marked receding chin, long prepuce but not overdeveloped sexual organs, flat foot, thick skin and swollen cervical glands. In many I have found enlarged tonsils with congested throats. They are hard to classify and in some of the border line cases we have had to defer the diagnosis until we could

further study the case. What should be done with these boys? If the classification is difficult the proper treatment seems well nigh impossible of attainment. The first class and the second classes are, except those who have committed no crime, very proper subjects for the Industrial School, while there is no question what should be done with the low and medium grade imbeciles. They should be placed in a separate institution for feeble minded. Why should the State of Vermont be the only state in New England without a school for the feeble minded? It pays $6,000 a year to the State of Massachusetts for the care of 20 children at Waverly. It is supporting at least 30 more at the Vergennes school. Those at Waverly are undoubtedly well cared for. Those at Vergennes, while well treated physically must of necessity be subjected to the influence of boys with stronger minds and with criminal records, and in spite of the best efforts of the officers the influence must be pernicious. They should be kept by themselves and should be trained to become as useful citizens as possible. This brings us now to the high grade imbecile. Should he be placed with the feeble minded where his malign influence will ever be troublesome or should he remain in the reform school where he is subjected to the bad influence of others of normal mentality, and where he will likely be trained into recidivist of our state's prison? There are many of these imbeciles among the wealthier classes whose mental defects are never perfectly recognized, but who are called queer and whose criminal instincts are kept under control by the moral influence of their home life and the restraint of their early teachings. Even under the best and closest supervision they never actually make good in the world, but show that much may be done in a proper environment. Massachusetts is now considering what to do with them. Shall Vermont blaze the path or follow in her footsteps?

There are other children who do not exactly fit into any one of these classes, but space does not permit me to consider them.

The girls on account of their sexual characteristics present some quite different points for examination which I hope to take up at some future time.

In conclusion, first, I would emphatically repeat that there is an absolute need of a separate institution for the feeble minded in the State of Vermont. Second, I would call attention to the following resolutions adopted by the International Congress of Criminal Anthropology, "that juvenile delinquents be examined by a competent physician preferably before coming to trial, and that those who give signs of degeneration be placed in a medico-pedagogical institution for mental and moral reform." Third, I would suggest that a commission should be appointed by the Governor to consider, among others, the following questions:

First. The indeterminate sentence.

Second. A parole system.

Third. The establishment of a separate juvenile court in all cities with jurisdiction over country districts.

Fourth. The proper disposition of the defective delinquent.

Fifth. The enacting of laws forbidding the marriage of certain classes of individuals.

Sixth. The asexualization of the high grade imbecile, with criminal instincts, both male and female.

Seventh. The life imprisonment of the habitual criminal.

—F. W. Sears, M. D., member of the American Institute of Criminal Law and Criminology.

THE NINETY-EIGHTH ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY WILL BE HELD IN LECTURE HALL A, THE MEDICAL COLLEGE, BURLINGTON, VERMONT, OCTOBER 12-13, 1911.

The following tentative arrangement of the program is given; there will probably be some few minor changes.

PROGRAM.

THURSDAY FORENOON, 11 O'CLOCK.

1. Call to order by President, H. C. Tinkham.
2. Prayer, Chaplain, Rev. C. V. Grismer.
3. Address of Welcome, Hon. Robert Roberts, Mayor.
4. Reading of Records of Secretary.
5. Report of Committee on Arrangements.
6. Report of Officers, Committees and Delegates.
7. Introduction of Delegates from other Societies.

THURSDAY AFTERNOON, 2 O'CLOCK.

1. The Vice-President's Annual Address, S. W. Paige, St. Albans.
2. "Radiculitis," A. H. Bellerose, Rutland.
3. "Bone Transplantation and Osteoplasty in Pott's Disease of the Spine," F. H. Allbee, New York City.
4. "Acute Poliomyelitis," M. B. Hodskins, Palmer, Mass.
5. "Spinal Anaesthesia," J. M. Allen, St. Johnsbury.

First regular meeting of House of Delegates at 5 o'clock in Lecture Hall B.

THURSDAY EVENING, 8 O'CLOCK.

There will be no evening session, the banquet being served at the Hotel Vermont at 8 o'clock, S. W. Hammond, Rutland, anniversary chairman.

FRIDAY MORNING, 9 O'CLOCK.

1. Report of Secretary of House of Delegates.
2. "Treatment of Injuries of Abdomen," E. J. Melville, St. Albans.
3. "A Study of Three Hundred and Fifty Cases of Pulmonary Tuberculosis at the Vermont Sanatorium," W. C. Klotz, Superintendent, Pittsford.
4. "Tuberculosis of the Kidney," W. W. Townsend, Rutland.
5. Subject of address to be announced, W. Gilman Thompson, New York City.
6. "Cancer of Rectum," D. C. Hawley, Burlington.

FRIDAY AFTERNOON, 2 O'CLOCK.

1. President's Annual Address, H. C. Tinkham, Burlington.
2. Subject of Address to be announced, G. W. Crile, Cleveland, Ohio.

Round trip tickets at Convention rates will be on sale at all the principal stations.

The customary exhibition of drugs, foods, medical books and surgical instruments will be displayed in rooms on the same floor as the place of meeting.

The headquarters of the Society will be at the Hotel Vermont, where the annual banquet will be served.

The Ethan Allen and Algonquin Clubs have tendered the use of their rooms to the visiting members of the Society during the meeting.

There will be a reception for the ladies on the roof garden of the Hotel Vermont, Thursday afternoon.

Friday morning there will be an entertainment for the ladies at the Klifa Club and luncheon will be served.

With three hotels, the Hotel Vermont, Van Ness House and Sherwood House, and a large number of boarding houses and private rooms there will be ample accommodations for all.

NEWS ITEMS.

A new course has been established at Johns Hopkins University. The name of this course is "Art as Applied to Medicine." Its purpose as explained in the Johns Hopkins Hospital Bulletin is to bridge over the gap existing between art and medicine, and to train a new generation of artists to illustrate medical journals and books in the future and to spare them the years of trial and disappointment of their self-taught predecessors. In view of the fact that medical illustrating is midway between art and medicine, it is proposed that the instruction given be designed for the needs of two classes: (1) For medical students and (2) for artists. Experience in the past has taught us that promising pupils

can be obtained from both medical students and artists.

The thirteenth annual School of Instruction for Health Officers was held at Burlington, Aug. 21-24, inclusive, with the following program:

Address of welcome: His Honor, the Mayor—Robert Roberts.
Address: Hon. Leighton P. Slack of St. Johnsbury, Lieutenant-Governor.
Address: Doctor Guy P. Benton, President University of Vermont.
Address: Henry D. Holton, M. D., Secretary State Board of Health.
Paper: "Inspection of Public Buildings," by Prof. W. C. Hanson, M. D., Asst. Sec'y Mass. State Board of Health.
Discussion: M. P. Stanley, M. D., White River Junction; C. F. Dalton, M. D., Burlington.
Paper: "Infectious Diseases," by Geo. M. Kober, M. D., Professor Georgetown University, Washington, D. C.
Discussion: C. F. Ball, M. D., Rutland; C. M. Campbell, M. D., Rochester.
Paper: "Vital Statistics," by F. L. Hoffman, Statistician Prudential Insurance Company of America.
Discussion: H. B. Whittier, City Clerk, Rutland; Geo. B. Hulburd, M. D., Jericho.
Paper: "Water Supplies, Their Sources and Analyses," by C. P. Moat, Chemist, Laboratory of Hygiene.
Discussion: William Wilson, Engineer in charge of Filter Plant, Burlington; F. E. Clark, M. D., President Board of Health, Burlington.
Paper: "Epidemic Poliomyelitis, sometimes called Infantile Paralysis, in Vermont," by Prof. Chas. S. Caverly, M. D., President of the Board. Illustrated by stereopticon.
Paper: "Poliomyelitis in Massachusetts," by Dr. P. E. A. Sheppard, Special Investigator Massachusetts State Board of Health.
Discussion: B. D. Adams, M. D., Burlington; P. C. W. Templeton, M. D., Irasburg.
Paper: "The Laboratory and Its Relation to Public Health," by Prof. B. H. Stone, M. D., Director of the Laboratory, Burlington.
Discussion: I. S. Coburn, M. D., Milton; W. O. Hutchinson, M. D., Washington.
Paper: "Nuisances and Their Abatement," by Arthur Morton, M. D., St. Albans.
Discussion: E. S. Lane, M. D., Ferrisburg; S. E. Darling, M. D., Hardwick.
Paper: "Milk," by Hon. H. L. Stillson, Bennington.
Discussion: W. N. Bryant, M. D., Ludlow; W. H. Havens, M. D., Chester.
Paper: "Sanitation of Summer Resorts," by Prof. J. W. Votey, Engineer of the Board.
Discussion: E. R. Clark, M. D., Castleton; F. C. Kinney, M. D., Greensboro.
Lecture: "The Hygiene of Schools and Prevention of Permanent Disabilities in Children," by George M. Kober, M. D., Professor Georgetown University, Washington, D. C.
Discussion: C. W. Peck, M. D., Brandon; Frank Phelps, M. D., Vergennes.
Legal Aspect of Sanitation.
Question Box.
By Hon. B. H. Stafford, State's Attorney Rutland County.

At the thirteenth annual meeting of the American Proctologic Society, held at Los Angeles, Cal., June 26 and 27, 1911, the following officers were elected for the ensuing year: President, John L. Jelks, M. D., Memphis, Tenn.; vice-president, Alfred J. Zobel, M. D., San Francisco, Cal.; secretary-treasurer, Lewis H. Adler, Jr., M. D., Philadelphia, Pa.; executive council, George J. Cook, M. D., Indianapolis, Ind., chairman, John L. Jelks, M. D., Memphis, Tenn., Dwight H. Murray, M. D., Syracuse, N. Y., Lewis H. Adler, Jr., M. D., Philadelphia, Pa. The place of meeting for 1912 will be at Atlantic City, N. J. Exact date and headquarters to be announced later. The following were elected Associate Fellows of the Society: Dr. Arthur F. Holding, 98 Chestnut St., Albany, N. Y.; Dr. Ralph W. Jackson, Fall River, Mass.; Dr. E. H. Terrell, 304 East Grace St., Richmond, Va.

The State Board of Health of Colorado has announced its intention of adopting the method used by the Louisiana State Board of Health for the promulgation of information regarding health and sanitation and expects to start a special health train on a tour of Colorado about January 1st. During the tour which is to be educational, demonstrations regarding pure food, health and sanitary matters will be made, lectures will be delivered and literature will be distributed.

At the annual meeting of the St. Albans Hospital Association the following officers were elected: President, Dr. T. R. Waugh of St. Albans; vice-president, M. P. Perley of Enosburg Falls; secretary, Dr. S. W. Paige of St. Albans; treasurer, Stephen S. Cushing of St. Albans. The board of directors is composed of Dr. E. M. Brown of Sheldon, E. W. Foster of St. Albans, M. P. Perley of Enosburg Falls, George H. Dunsmore of St. Albans town, M. Magiff, E. P. Stevens and S. S. Cushing of St. Albans. The executive committee appointed was S. S. Cushing, E. W. Foster, G. H. Dunsmore. The surgical staff is composed of the following physicians: Dr. Alan Davidson, Dr. G. C. Berkley, Dr. John Gibson, Dr. E. A. Hyatt, Dr. S. W. Paige; medical staff, Dr. A. A. Skeels, Dr. W. B. Arnold, Dr. E. J. Melville, Dr. Arthur Morton, Dr. T. R. Waugh.

Dr. Harris Bliss Hazen of White River Junction, U. V. M., medical, 1911, and Mazie Elizabeth McCarthy were married at Burlington Aug. 9.

Dr. Herman D. Bone, who has been on the medical staff of the Vermont State Hospital for eight years, has resigned his position and leaves in about a month. He will pass part of the fall and winter in New York City in post graduate work and then goes to a Massachusetts city where he has bought the practice of an eye, ear, nose and throat specialist.

New Hampshire's Board of Optometry has been appointed and the members have organized. George H. Brown, Manchester, five years; W. E. Wright, Keene, four years; C. Howard Edmunds, Claremont, three years; Dr. C. A. Sturtevant, Manchester, two years; Dr. E. C. Tremblay, Manchester, one year.

Dr. F. E. Quigley, U. V. M., 1911, has located at Rutland, Vt.

Dr. Gebhardt, U. V. M., 1905, has purchased a home in Rutland and intends to practice there.

Dr. Bernard L. Wyatt has sold his practice at Tilton, N. H., to Dr. J. C. Kenney of Sharon, Vt. Dr. Wyatt goes to Metcalf, Ariz., to be chief of the medical department of the Hannon Copper Co.

Dr. D. R. Chase of Lebanon, N. H., who has been ill with typhoid fever for several weeks is now convalescent.

Dr. George Holbrook of Woodstock, Vt., has closed his office and practice and retired to his old home at Swanzey, N. H.

Dr. H. B. Wilson, Dartmouth, 1909, has removed from Strafford, Vt., to White River Junction, Vt., and Dr. G. N. Cobb, whose practice he took, has accepted the position of assistant physician in the Massachusetts State Colony for the Insane at East Gardner.

Dr. F. Dessaint has left the naval service and is now located in West Lebanon, N. H.

A Tuberculosis Directory published by the National Association for the Study and Prevention of Tuberculosis, 100 East 22nd Street, New York. Price 50 cents. This is the third work of its kind that has ever been published, and contains an authoritative lists of anti-tuberculosis agencies in the United States and Canada and gives the most complete survey of this great field of social work. The book is furnished to the public at the lowest possible cost, 50 cents postpaid, no attempt being made to obtain a profit from the sale of this volume.

A new and remarkable cure for consumption is being used by a man in Bradford, England. This man named Bryant, worked in the coal pits and when he was no longer able to work he started the breeding of maggots and he believed the gases of the putrefying meat upon which the maggots were bred gave him the continuous and decided improvement he experienced. He took his daughter from a consumptive sanatorium in the Isle of Wight and in two months she had gained 17 pounds and became quite well. Bryant has thirty patients breathing the gas and all have improved. The medical officer of the West Yorkshire health department has inspected Bryant's establishment and a Bradford analyst reports that the gases are principally ammonia and trymethylamine which even in a weak solution destroys microbes in a few hours. The fumes when inhaled destroy the tubercle bacilli. A gentleman of the Bradford district has given the local council $50,000 to erect buildings for a test of the cure on a big scale.

Dr. James Sullivan of Manchester, N. H., died in Boston at Carney Hospital from a stroke of paralysis. He was born in 1853, graduated from the Yale medical school in 1875, and has practiced in Manchester for 35 years. He ran for mayor of Manchester in 1900 and again in 1910.

Dr. A. F. Sumner of Manchester, N. H., who has recently been doing special work in eye, ear, nose and throat work, has accepted the position of assistant to an optometrist in New York City.

Dr. C. A. Pease of Burlington leaves New York October 1st for a six months' stay in Vienna, where he contemplates doing work in surgery.

Dr. C. A. Pease has been appointed to fill the vacancy on the surgical staff of the Mary Fletcher Hospital of Burlington, left by the death of Dr. S. E. Maynard.

Dr. G. M. Sabin has been appointed to the medical staff of the Mary Fletcher Hospital, at Burlington.

Dr. Lyman Allen has been appointed consultant to the Mary Fletcher Hospital at Burlington.

Dr. E. A. Stanley has received the appointment at the State Hospital for the Insane at Waterbury to fill the vacancy caused by the resignation of Dr. H. D. Bone.

Dr. S. L. Goodrich of Burlington has been appointed to the staff of the Hospital for the Insane at Waterbury, filling the vacancy made by the change in Dr. Stanley's position.

Dr. Sam Sparhawk of Burlington sailed from New York on September 9th for Cherbourg, going thence to Berlin, Germany, where he will take three months' post graduate work.

Cards are out announcing the marriage of Dr. C. A. Pease of Burlington and Miss Mary Stewart Stranahan of St. Albans to occur on September 27th.

The new tuberculosis ward of the Hillsboro County (N. H.) Hospital is finished and will be occupied about Nov. 1st by the twelve patients they have at the institution. The ward is 41x26 feet and with the glass front raised which makes the piazza a part of the ward, it will be 41x38. This improvement to the hospital will be finished and furnished within the appropriation of $15,000. Forty patients can be accommodated. The whole southern exposure can be raised and lowered so that in the morning when closed a quick fire of wood in the hot air furnace will make it comfortable for dressing and breakfast, after which the glass front is again opened and at night the beds are warmed again by the quick heat when the front is closed. The whole building was constructed from the designs of Dr. C. W. Milliken, the hospital physician.

Dr. Lorenzo D. Hamblet, of Somersworth, N. H., died Aug. 24th at York Beach, Me. He was born at Worcester, Vt., in 1827. He had practiced at Somersworth, N. H., for half a century.

Dr. Everett L. Chapman, U. V. M., 1910, has purchased the practice of Dr. O. N. Eastman at Dover, N. H. Dr. Eastman has accepted a position of instructor in obstetrics at Burlington, Vt.

The new addition to the Margaret Fahnestock Training School of the New York Post-Graduate Medical School and Hospital is completed, and provides accommodation for 139 nurses.

The former building accommodated 67, and was inadequate for the needs of the Medical School and Hospital building, now nearing completion.

BACTERIOLOGIST AND PATHOLOGIST (MALE)—PHILIPPINE SERVICE—SEPTEMBER 23, 1911.

The United States Civil Service Commission announces an examination to secure eligibles from which to make certification to fill vacancies as they may occur in the position of bacteriologist and pathologist in the Bureau of Science, Manila, P. I., at a salary of $2,000 per annum, and vacancies requiring similar qualifications as they may occur in the Philippine Service.

It will not be necessary for applicants to appear at any place for examination. Their eligibility will be determined upon the evidence furnished in connection with application and examination Form 2 concerning their education, training, experience, and fitness. Applicants may, if they desire, submit with their applications copies of theses or publications which have been prepared by them.

Qualifications.—The qualifications desired of applicants for these positions are as follows:

(*a*) That they be graduates in medicine. It is preferred that they shall have received a doctor of philosophy degree (or have had an equivalent training) from a first-class institution.

(*b*) They must be trained in bacteriological laboratory work and must have good technique.

(*c*) They must have a good thorough fundamental knowledge of pathological anatomy.

(*d*) They must have a knowledge of and training in immunity and serum therapy.

(*e*) They must be young, healthy, and energetic, and capable of doing research work; in fact, they should have all the qualifications needed by a first-class laboratory research worker.

All statements in relation to training, experience, and fitness are subject to verification.

It is believed that these positions will be attractive to persons who are competent for the work. It has been stated by the Bureau of Science that the position of bacteriologist and pathologist offers opportunities for promotion, the salaries in the pathological laboratories ranging

as high as $5,000 (U. S. currency) per annum. The laboratories are fully equipped with laboratory materials and apparatus for doing all classes of modern bacteriological and pathological work.

The medical certificate in application Form 2 must be written by some medical officer in the service of the United States. Special arrangements have been made with pension examining boards throughout the country to give such examinations for a fee of $2, to be paid by the applicant. If such board cannot be conveniently visited, applicants should appear before medical officers of the Army, Navy, or Public Health and Marine-Hospital Service. The examining physician must show his official designation.

Each applicant for these positions will be required to submit with his application a photograph of himself, taken within the past three years, as a means of identification in case he receives appointment. An unmounted photograph is preferred. The name and date of examination, the competitor's name, and the year in which the photograph was taken should be indicated on the photograph.

Applicants must have reached their eighteenth but not their fortieth birthday on the date of the examination.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Applicants should apply at once for application and examination Form 2, either to the United States Civil Service Commission, Washington, D. C., to the secretary of the board of examiners, post-office, Boston, Mass., Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Cal.; customhouse, New York, N. Y., New Orleans, La., Honolulu, Hawii; old customhouse, St. Louis, Mo.; or to the chairman of the Porto Rican Civil Service Commission, San Juan, P. R. No application will be accepted unless properly executed and filed with the Commission in complete form, with the material required, prior to the hour of closing business on September 23, 1911. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

Issued August 23, 1911.

TRAINED NURSE—PHILIPPINE SERVICE.

The United States Civil Service Commission invites particular attention to the need of trained nurses in the Philippine Service. In order to fill a large number of vacancies in this position the Commission has announced an examination to be held on September 20, and also one on October 18, but owing to the urgent need of eligibles examination will be held before those dates if sufficient applicants are secured to warrant such action. This service is an excellent field for graduate nurses, and offers many opportunities and advantages not found in other parts of the Government service. The hours of service are short and vacation leave affords an opportunity for travel in the Islands, China, and Japan.

Hospitals.—More than three-fourths of the nurses are on duty at the Philippine General Hospital, Manila, which is a modern institution of 350 beds, for the treatment of acute diseases. The buildings are of reenforced concrete, were only recently completed, and are probably more modern than those of any hospital in the Orient.

Connected with the Philippine General Hospital there is a nurses' home built of reenforced concrete. This building is also new and has only been occupied since April last. It has all modern conveniences, including electric light and fans, hot and cold water, large commodious verandas, and especial provisions for out-door sleeping. New hospitals are in course of construction at a number of other places, and at all of the institutions where nurses are on duty they have modern accommodations. Nurses who desire to go to the hills for an outing are furnished board and quarters at the Baguio nurses' homes without cost to themselves.

Work.—The work of graduate nurses is largely that of supervision, owing to the number of pupil nurses in training.

All nurses are subject to assignment in any position of the Bureau of Health without increase of pay, and each nurse will be expected to take her share of communicable-disease nursing at

San Lazaro Hospital or elsewhere. At present this amounts to less than two months a year; in cases of epidemics or other emergency it may be lengthened. As the force of nurses increases this time is correspondingly shortened. Nurses are not isolated or quarantined while on such duty. Rigid measures of disinfection are observed, and the nurses have the same liberty as the doctors who have charge of this work.

Hours of Duty.—The day is divided into three shifts of 8 hours each, and these hours are as closely adhered to as the exigencies of the service will permit.

Appointments.—When the Bureau of Insular Affairs is notified of the selections, it furnishes each appointee with a provisional appointment and arranges her transportation to Manila. The contract period is two years, and the salary $50 per month for the first six months, with subsistence, quarters, and laundry. This is a probational period, and the appointment will not be permanent unless the nurse's work has been satisfactory. If her services are satisfactory, at the end of the six months, she is given a regular appointment at $60 per month, with subsistence, quarters, and laundry.

Promotions.—These can be made at any time, but not oftener than once a year, and they are based on ability and adaptability. Seniority of service is not a factor in promotions except where nurses are equally capable. After their work has been thoroughly tested so as to warrant it, promotions may be made to the positions of chief nurse, at $70 per month, and their pay may be increased at the rate of 10 per cent a year for satisfactory service, until they draw a salary of $85 per month.

Leaves of Absence.—After the six months' probation, nurses are entitled to vacation leave at the rate of 28 days per annum. This leave does not accumulate if unused during the current year. After two years' satisfactory service she is also entitled to 30 days' accrued leave for each year of satisfactory service, computed from the date of the probational appointment; accrued leave cannot accumulate for more than five years. Time lost on account of illness is charged against the vacation leave. After three years' satisfactory service a person using accumulated leave to visit the United States is allowed 30 days of travel time on half pay coming home and the same period returning, in addition to the accumulated leave.

Transportation.—The transportation furnished includes simply the railroad ticket, without sleeping-car accommodations or meals, to the port of embarkation, and first class berth with meals on the steamer. The cost of actual and necessary expenses, like meals, hotel room, moving baggage, etc., must be advanced by the nurse. Receipts must be secured for all money so spent. The cost of the transportation thus advanced is deducted at the rate of 10 per cent of the salary each month, but after two years' satisfactory service the amount so deducted, together with the amount of necessary incidental expenses paid by her, is refunded to the nurse. The necessary expense incurred in reaching Manila does not ordinarily exceed $50. A nurse may also advance the cost of her transportation and have the money refunded after two years' satisfactory service. The salary begins the day following her arrival in Manila, but after two years' service she is also paid half salary from the date of embarkation until that of her arrival in Manila.

Return Transportation.—Return transportation is not paid by the Government. If, however, a nurse has been ill or there have been unusual and extraordinary circumstances in her particular case, an effort would be made to secure her transportation to San Francisco on an Army transport, which would only cost her $1 per day for subsistence, or about $30 for the voyage.

The examination will consist of the subjects mentioned below, weighted as indicated:

	Subjects.	*Weights.*
1.	Anatomy and physiology	5
2.	Hygiene of the sick room	20
3.	General nursing	20
4.	Surgical nursing	20
5.	Obstetrical nursing	20
6.	Experience in nursing	15
	Total	100

Applicants will be required to show in their applications that they are graduates of recognized schools for trained nurses which require a residence of at least two years in a hospital giving thorough practical and theoretical training, and have had at least three years' experience in a modern and well-equipped hospital, including the experience prior to graduation. Hospital experience in connection with tropical diseases will be given special credit.

Applicants must have reached their twentieth but not their fortieth birthday on the date of examination.

Applications.—Graduate nurses desiring appointments in the service of the Philippine Islands should write to the United States Civil Service Commission, Washington, D. C., for application blanks and information as to the dates and places of examinations. Other information is summarized in this circular; if further details are desired inquiry may be made of the Bureau of Insular Affairs, War Department, Washington, D. C.

Issued August 22, 1911.

TRAINED NURSE—SEPTEMBER 20, 1911.

The United States Civil Service Commission announces an examination on September 20, 1911, at the places mentioned in the list printed hereon, to secure eligibles from which to make certification to fill vacancies as they may occur in the position of trained nurse in the Isthmian Canal, Philippine and Indian Services.

As a result of this examination it is expected to fill a number of vacancies in both the Indian and Philippine Services, unless it shall be decided in the interest of the service to fill such vacancies by reinstatement, transfer, or promotion.

A person who applies for this position in the Isthmian Canal and Indian Services cannot at the same time become eligible for appointment in the Philippine Service.

The usual entrance salaries paid trained nurses in the Indian Service range from $600 to $750 per annum, and quarters; the entrance salary for the Philippine Service is $50 a month for the first six months, when the salary is increased to $60 a month (an adequate laundry allowance is made in addition to board and quarters in the Philippine Service). Gradual promotion of the most efficient to $85 a month may be made as vacancies occur. In the Isthmian Canal Service the entrance salary for female nurses is $60 a month, with board, quarters, and laundry. About half the female nurses in this service receive $75 a month through promotion. The entrance salary for male nurses in the Isthmian Canal Service is $90 a month, with quarters, but without subsistence or laundry, and they may be promoted after six months' satisfactory service to $105 a month, with quarters.

The examination will consist of the subjects mentioned below, weighted as indicated:

Subjects.	*Weights.*
1. Anatomy and physiology	5
2. Hygiene of the sick room	20
3. General nursing	20
4. Surgical nursing	20
5. Obstetrical nursing	20
6. Training and experience in nursing, and fitness	15
Total	100

All statements relating to training, experience, and fitness are subject to verification.

Male applicants will not be required to take the subject of obstetrical nursing, and the weight of that subject will be divided equally among the remaining subjects, except anatomy and physiology. Time allowed: Men, 6 hours; women, 7 hours.

Applicants will be required to show that they are graduates of recognized schools for trained nurses which require a residence of at least two years in a hospital giving thorough practical and theoretical training, and for the Isthmian Canal and Philippine Services have had at least three years' experience in a modern and well-equipped hospital, including the experience prior to graduation; or, in the case of male applicants for the Isthmian Canal Service, that they have served at least one enlistment in the Hospital Corps of the United States Army. Hospital experience in connection with tropical diseases will be given special credit.

Application Form 1312, including the medical certificate, is required for the Indian Service or the Isthmian Canal Service; Form 2, including the medical certificate, and Form 375 for the Philippine Service.

The county officer's certificate in the application form for the Isthmian Canal Service need not be executed.

Applicants must have reached their twentieth but not their fortieth birthday on the date of the examination.

The medical certificate in Form 2 for the Philippine Service must be filled in by some medical officer in the service of the United States. Applicants for this service should appear before medical officers of the Army, Navy, Indian, or Public Health and Marine-Hospital Service.

If such an officer cannot be conveniently visited, a pension-examining surgeon may execute the certificate. Special arrangements have been made with pension-examining boards throughout the country to give such examination for a fee of $2, to be paid by the applicant. This certificate must not be executed by the family physician of the applicant. The medical officer should indicate his rank or official designation on such certificate.

Each applicant for the Isthmian Canal Service will be required to submit to the examiner, on the day he is examined, a photograph of himself, taken within two years, and each applicant for the Philippine Service will be required to submit a photograph of himself, taken within three years, which will be filed with the applicant's examination papers as a means of identification in case he receives appointment. An unmounted photograph is preferred. The date, place, and name of examination, the examination number, the competitor's name, and the year in which the photograph was taken, should be indicated on the photograph.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any place mentioned in the list printed hereon, for the proper application forms. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

Issued August 22, 1911.

OBITUARY.

Dr. Frank Pierce Foster, for more than thirty-one years editor of the *New York Medical Journal* and dean of the medical journalistic profession, died at Chadwick, N. J., August 13th, from cancer of the throat, aged 69 years.

Dr. Frank Wilfred Page, University of Vermont, Burlington, 1866, a member of the Boston Medical Library Association, from 1878 to 1880 assistant physician and superintendent of the McLane Hospital for the Insane, Somerville, Mass.; from 1897 to 1899 superintendent of the Vermont State Hospital, Waterbury; professor of nervous and mental diseases in the University of Vermont from 1898 to 1900; died at his home in Boston, August 2nd, aged 67 years.

Dr. Henry Arnold, U. V. M., medical 1880, died at his home in Foster, R. I., Aug. 25th, aged fifty-seven.

Dr. George S. Foster, 63, of Putney, a well-known physician, and a member of the State board of supervisors of insane, died in his home in Putney, Aug. 18th. He had been afflicted many years with diabetes, but until a few weeks ago the disease did not manifest itself to an alarming extent. For a number of days it had been realized that he could not survive long. Dr. Foster was born in Waltham, Vt., June 7, 1848. He graduated from the University of Vermont in Burlington, medical department, 1874, and the following year located in Putney, as an associate of the late Dr. P. Webster of Brattleboro. The partnership continued about a year, since which time Dr. Foster has practiced alone, having a wide clientage in Putney and the surrounding towns in Vermont and New Hampshire. He formerly was actively identified with school matters, serving as town superintendent, member of the county board of education, and for a number of years chairman of the school directors of Putney. He was elected State senator in 1896. For several years he had been a member of the State board of supervisors of insane, and for a long time had served on the board of pension examiners, whose meetings are held regularly in Brattleboro. He leaves a wife, who was Miss Alice Wheat of Putney. Dr. Foster was a successful physician, and a prominent member of the Masonic fraternity.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

ETIOLOGY OF CONSTIPATION.

Abstract of paper read before Am. Proctological Society at Los Angeles, June 27th, by HORACE HEATH, M. D., of Denver, Col.

Dr. Heath mentioned two groups—miscellaneous and mechanical. Under miscellaneous, the author regarded heredity as unimportant, but attention was called to the faulty instruction of children in certain families. He stated that the constipation of infancy was due to undeveloped muscles; and of old age, to inactivity and atonicity.

Under mechanical causes he considered diet, sedentary life, abnormal positions, angulations, coloptosis, and hypertrophy of the rectal valves.

The predisposing diseases mentioned were colitis, stricture, proctitis, fissure, hemorrhoids, fistula, polypi, enlarged prostate, and malignant growths.

PHYSIOLOGY OF CONSTIPATION.

Abstract of paper read before Am. Proctological Society, June 27th, at Los Angeles, by SAMUEL T. EARLE, M. D., of Baltimore, Md.

In reviewing the Physiology of Constipation in the symposium read before the American Proctologic Society, June, 1911, Earle calls attention to the sensibility of the alimentary canal in connection with its bearing on constipation. It has been shown that the stomach and intestines are quite insensitive to tactile and thermal stimuli, but that the esophagus and anal canal are sensitive. The whole of the alimentary canal is, however, sensitive to distension, which produces at first discomfort and subsequently pain. The rectum appears to be more sensitive than the rest of the intestines to distension, so that a large fecal mass produces more discomfort when lodged in the rectum than in any other situation. As a result of this, the normal accumulation of feces in the pelvic colon is unaccompanied by any discomfort, whereas, the entry of feces into the rectum at once produces a sensation, which acts as a warning that defecation is necessary. The discomfort produced by the presence of a large mass of feces in the rectum is partly due to the pressure it exerts on the upper extremity of the sensitive anal canal. Prolonged retention of feces in the rectum leads to a blunting of its sensibility, so that comparatively little local discomfort is present in most cases of confirmed constipation. But in acute cases or cases of recent origin, in which the rectum is distended with feces, much discomfort and occasionally severe pain is experienced. On the other hand, even a very large accumulation in the pelvic colon produces little or no discomfort in the intestine itself.

A large fecal accumulation in the rectum presses directly upon the anterior primary divisions of the third, fourth and fifth sacral nerve routes, as they emerge from the sacral foramina. It may therefore lead to neuralgic pain referred to the sacro-coccygeal region. It is liable to cause suffering more from its constant presence than its severity; it is often as severe when the patient lies down as when he takes exercise, but some relief follows flexion of the lumbar spine. The muscles of the buttocks and back of the thigh, which receive a small part of their sensory and motor supply from the third sacral nerve route, may be the seat of similar pain. Neuralgic pain or paresthesia, in the form of tingling or a sensation of heat or cold may occur, in the course of the sciatic nerve, in the back of the thigh, and occasionally the sensation of cramp in the calf is produced. Pain is also occasionally felt in the hip-joint; it receives part of its nerve supply from the third sacral nerve. The roots which supply the muscles of the front of the thigh are situated out of reach of the distended rectum, so that in the exceptional cases in which pain is produced by constipation in this situation, it must be due to pressure exerted by a fecal mass in the iliac colon on the anterior crural nerve; and is accordingly only observed on the left side.

That these neuralgic pains are probably due to the direct presence of a large and hard mass of feces, on the sacral nerve-routes, is shown by their instantaneous disappearance on completely evacuating the rectum by enemata, a form of treatment which was already advocated for sciatica by Columnius of Naples at the end of the eighteenth century.

Possibly the erections and seminal emissions, and the frequency of micturition and nocturnal incontinence, which occasionally result from large fecal accumulations in the rectum, are due to direct irritation of the third and fourth sacral nerves, and are not reflex in nature. The spasm of the sphincter ani and levator ani muscles, which has already been described as an occasional complication of the fecal impaction in the rectum, which occurs in constipation, may perhaps be in part due to pressure on the fourth sacral nerve routes.

Neuralgia of the testicles in men and dysmenorrhea in women are sometimes increased by the direct pressure in the rectum on the nervous supply of the testicles and uterus respectively.—Arthur F. Hertz, on Constipation.

BACTERIOLOGY AND URINARY FINDINGS OF CONSTIPATION.

Abstract of paper read before Am. Proctological Society at Los Angeles, June 26-27, by John L. Jelks, M. D., of Memphis, Tenn.

The author advances no new theories but expresses his views of the importance of both chemical and microscopical investigation in connection with clinical proctology, and the value of these examinations in cases of atonic constipation.

He refers to the importance of either finding, or eliminating, the presence of intestinal parasites, that are known to produce lesions in the intestinal coats and ports of entry of bacteria or their toxins. He expresses the belief that the destruction wrought to the sub-mucous structures, the infiltration of plastic material and the contracting, distorting, scarred portion of the bowel, as also the consequent destruction of, and interference with the secreting glands, their ducts and the nerve supply may become important factors in the atonic condition of some patients.

The author believes it is important to make microscopic examinations in all cases of this character—both of the crude and washed specimens, and of scrapings from the intestinal wall or from any lesion found in it. He also examines the urine chemically, and microscopically, believing this important, owing to the relationship and association of diabetes, kidney insufficiency and diseases of the kidney with cases of atonic constipation.

These examinations of the urine aid in determining the proper course of treatment; especially is this true when indicanuria, casts and sometimes traces of

albumen, indicate the vicarious overwork of the tired and irritated kidneys, as also the intestinal fermentation and coprostatic auto-intoxication, which results in some cases.

The author refers to the importance also of examination of the stomach contents after test meals have been given, as these may furnish in some cases a clue to etiologic factors.

Blood examinations he finds quite important in determining the amount of opsonic resistance, as also for finding infections in the blood, which matters by lowering the vitality may become factors in the atonic conditions which were being discussed.

PATHOLOGY AND DIAGNOSIS OF CONSTIPATION.

Abstract of paper read before Am. Proctological Society at Los Angeles, June 26-27, by Wm. M. Beach, M. D., of Pittsburg, Pa.

Pathology of constipation is naturally considered under two general heads, namely:

1. Stasis due to altered secretions;
2. Stasis due to mechanical obstruction.

The first may be the result of neuroses, and acute fermentative indigestion, or a bacillary infection. The anerobes may attack the contents of the bowel or the gut wall itself, leading to varying degrees of inflammation in the colon—as ulceration, hypertrophic and atrophic catarrh. The colon impaired functionally or traumatically leads to stasis and consecutive inhibition of the fecal excursion. Such impairment further disturbs the physiologic lines of defence against the auto-intoxications—as

(a) the intestinal mucosa, itself;
(b) the liver, and
(c) the antitoxic glands.

Collateral with these phenomena in constipation, are such factors as cholelithiasis, hypochlorhydria, cholangitis and appendicitis, as altered secretions incident to coprostasis.

Mechanical obstructions to be reckoned with include:

1. Entroptosis or Glenard's disease;
2. Gastroptosis;
3. Dilatation of the colon;
4. Certain extra-mural and intra-mural sources of obstruction—as pelvic tumors and displacements, nephroptosis, enlarged glands, intussusception, malignant disease, etc.;
5. Acute angulation at the recto-sigmoid junction, hypertrophy of O'Beirne's sphincter, and stiff rectal valves;
6. Disease in the anal canal.

Diagnosis resolves itself into an analysis of the above conditions; to differentiate acute or chronic obstruction and the ordinary functional stasis which may also be accompanied by the various forms of colitis.

SEQUELAE OF CONSTIPATION, INCLUDING AUTO-INTOXICATION.

Abstract of paper read before Am. Proctological Society at Los Angeles, June 26-27, by Alfred J. Zobel, M. D., of San Francisco, Cal.

In this paper the writer mentions many of those conditions which seem to have their origin in chronic constipation with auto-intoxication. He states that experimental evidence has not as yet demonstrated that they actually do so, but close observation and clinical experience tend strongly to confirm the theory.

He writes that while all constipated individuals do not necessarily suffer from those symptoms ascribed to auto-intoxication, yet in his experience most patients with auto-toxic symptoms are constipated. This may be without their knowledge, and they often deny in good faith that they are so; but proctoscopic examination generally proves the sigmoid and rectum to be loaded with fecal matter.

A report is given of the proctoscopic observations made on a number of cases of hypertrophic arthritis. In almost every instance the lower bowel was found filled with a fecal mass, although most of the patients positively stated that they had had an evacuation within an hour or two previous to the time of examination. Thorough colonic flushings invariably brought about relief from pain, and in time marked improvement in their general condition.

These observations are in line with the theory advanced by various authors that arthritis deformans may be due to intestinal auto-intoxication.

Mention is made of the various muscular, arthritic, and neuralgic pains caused by absorption of toxins from the bowel. These are often misunderstood, and treatment instituted for rheumatism.

Congestion, irritation, and various disturbances, both functional and organic, of the uterus, tubes and ovaries in the female; the vesicles, urethra, and prostate in the male; and the bladder in both, may result from chronic constipation. This is due both to the proximity of these organs to the lower bowel and to their close physiological relationship.

It is noted that albuminuria may arise from intestinal stasis, and mention is made of the opinion advanced by various clinicians that a nephritis may even be caused thereby.

The role of constipation with auto-intoxication as causal factors of epilepsy, neurasthenia, and various mental conditions, as claimed by certain well known and competent observers, is stated here without comment.

The influence of these conditions on the heart, blood-vessels, and the blood; and their effect on the eye, ear, nose and throat are dilated on in this paper, and in support of these statements quotations are culled from the literature that has appeared on this subject during the past five years.

The writer further briefly mentions a few more of those conditions that are supposed to arise from chronic constipation with auto-intoxication, and concludes by agreeing with the trite observation of Boardman Reed that, "when we except the exanthems, malaria, syphilis, tuberculosis, and the diseases caused by traumatisms, by metallic poisons, and by a few other toxic agents or infections from without, practically all the remaining maladies which afflict us and cut short our lives are now directly or indirectly traceable to auto-intoxication."

NON-SURGICAL TREATMENT OF CONSTIPATION.

Abstract of paper read before Am. Proctological Society at Los Angeles, June 26-27, by Dwight H. Murray, M. D., of Syracuse, N. Y.

Dr. Murray stated that chronic constipation and its results was one of the worst of the foes to a healthful human race.

He had never known any medication to cure cases of constipation. As primary causes of all cases of constipation he considered CARELESSNESS, IGNORANCE, and LAZINESS to be of first importance.

The whole medical profession should teach their clientele how to care for themselves, and to train their children in order that constipation could be eliminated by educational and prophylactic methods.

Medicines for the use of constipated people have increased until their number is almost countless. Advertisements which extol particular cathartics exploited by this or that pharmacist, are well nigh bewildering.

He makes the claim that all cathartics finally leave those who use them worse than before. He does not entirely interdict the use of drugs, as there are cases where they must be used, but almost wholly for temporary relief. He says that a mistaken notion exists in the minds of the laity that the feces is composed largely of debris of food. This, however, furnishes only a comparatively small portion of the fecal mass, the larger portion being deposited in the large intestine as the ash resulting from the products of metabolism.

He mentions various exercises, massage, deep breathing, climbing, rowing, electricity, etc., as being helpful in the treatment and cure of these cases.

Sigmoid injections of pure olive oil, castor oil or medicinal paraffin oil were recommended as aids in the treatment.

He said that hours could be spent over the various drugs and methods in detail—after it all we would be obliged to say that eternal vigilance as to regularity on the part of the patient must be exercised or a cure would not result.

The keynote of his paper is, education and regularity as to periodicity of the first daily stool. Finally he believed that the whole profession had a profound duty to perform for mankind in an educational way for emancipating the race from this insidious foe.

THE SURGICAL TREATMENT OF CHRONIC CONSTIPATION.

Abstract of paper read before Am. Proctological Society at Los Angeles, June 26-27, by Louis J. Hirschman, M. D., of Detroit, Mich.

Constipation is divided into two great classes; the one class being due to a lack of functional activity, i. e., dietetic error, improper habit, neural or trophic influences. The other class, which some of us have been pleased to designate as obstipation, includes all cases whose impaired activity is due to mechanical interference with the normal peristaltic movements and expulsive function of the bowel.

Obstipation, or obstructive constipation may be caused by:

(1) The presence of any foreign body, occlusion, contracture, hypertrophy or accumulation in the intestinal canal.

(2) Displacements, acute angulations, distensions, neoplasms, adhesions or compressions of the bowel.

(3) Developmental defects and congenital deviations from normal.

Inasmuch as the surgical treatment of constipation, due to easily recognized local conditions, is obvious, they are dismissed with mere mention. Coloptotic constipation represents such a large percentage of cases of mechanical constipation that its discussion involves the most important field of surgery in the treatment of constipation. All patients with ptotic colons are not constipated, nor do all constipated patients suffer from coloptosis. There must be in addition to ptosis of the cecum, transverse or sigmoidal colons, a condition of functional inactivity due to atony of the bowel muscle.

Suspensions of ptotic colons by means of fixation by adhesions to the abdominal wall are unnatural and interfere with peristalsis. Restoration should be accomplished by shortening the natural support—the mesentery. Lateral anastomoses between the most dependent loops of ptotic bowel is sometimes indicated. Above all, massage, both abdominal and internal rectal, is of primary importance in restoring function, and should be used along with either dietary or hygienic measures to restore bowel function.

RENAL INFECTIONS.

G. E. Brewer, New York (*Journal A. M. A.*, July 15), discusses the infections of tne kidney and says there are five routes of infection generally conceded as possible: 1. By direct penetrating wounds. 2. By direct extension from a neighboring focus. 3. By catheterization of the ureter. 4. By an ascending process from the lower urinary passages, and 5. By blood-current. The first and third of these are unquestioned. The second is so rare as to be a surgical curiosity. He, therefore, takes up the fourth and fifth and gives a history of the investigations and their results in regard to the possibility of ascending infection and reports his own experimental studies. From a review of the known pathologic evidence, the experimental investigations of others, his own researches and clinical experience, he thinks we are justified in saying that: "1. An ascending infection is responsible for a certain proportion of the acute surgical infections of the kidney. 2. In the great majority of such instances, the infectious material is carried upward to the kidney by a reflux of contaminated urine into the ureter and renal pelvis through the ureteral orifice, as the result of some interference with its protective mechanism. The factors which favor this process are, in the order of their importance: (a) A chronic obstruction to the normal bladder outflow, a urethral stricture, obstructive prostatic hypertrophy, prostatic or vesical new growth; (b) acute cystitis with severe tenesmus and violent expulsive efforts; (c) severe inflammation, ulceration, calculus or new growth involving the ureteric orifices, interfering with the normal sphincteric action; (d) ureteral and detrusor paralysis from spinal injury or disease; and (e) the possible temporary paresis of the ureteric sphincter by the passage of a large ureteral calculus. 3. In certain rare instances the process may occur by a direct extension of the inflammation along the mucous membrane of the ureter by continuity of tissue, as proved by numerous clinical observations, although I have been unable to reproduce it in animal experiments. 4. In other rare instances the infection may ascend by the ureteral or peri-ureteral lymphatics, and this is more likely to occur if there exists an infection in the deep structures of the bladder-wall involving the vesical lymphatics. 5. As stated by Legueu, these methods in certain cases may be combined and concomitant." Next, taking up the subject of hematogenous infection, he reviews the investigations of others and gives details of his own experiments on rabbits and dogs by injecting cultures of various pathogenic bacteria into the veins. He concludes from all the evidence obtained by himself and others and the accumulated clinical experience, that, during the progress of any acute infectious disease, a certain number of microorganisms find their way into the blood-current and that many of these are excreted through the kidneys. If the number of these organisms is comparatively

small there may be no demonstrable injury, but if the number is large and they are highly virulent or if one or both kidneys are diseased, overwhelming or fatal toxemia may follow or any of the pascal types of renal infection suppuration. While the trouble may be bilateral it is often unilateral on account of a diminished resistance of the infected kidney from disease or trauma. While he has been able to produce these lesions in animals by the *B. coli*, the *Streptococcus pyogenes* the *Staphylococcus aureus*, the *B. typhosus*, as well as the pneumococcus and *B. pyocyaneus*, in clinical cases he has been able to isolate only the first four of these. In some of his clinical cases, however, notably one of scarlet fever, search for bacteria proved negative. He has also been struck in his study of the subject by the great difficulty in producing ascending nephritis in animals as compared with the case with which the hematogenous infection is produced. This would seem to corroborate the impression produced by clinical experience that hematogenous infection is responsible for most cases of renal sepsis, even when septic condition of the lower urinary passages also exists.

SPOROTRICHOSIS.

Albert Beam, Wilsey, Kan. (*Journal A. M. A.*, June 10), reports a case, more or less typical, of sporotrichosis in a 17-year-old boy. The history gave no indications of its cause and the case was not especially severe, but seems worthy of reporting on account of the apparently increasing frequency of the disorder in the Middle West, the frequent failure to diagnose it and the pain, danger and expense to which the patients are liable in consequence. The treatment was evacuation of the pus and dressing with solution of iodin with increasing doses of potassium iodid. The recovery was prompt and uneventful.

CATARACT EXTRACTION.

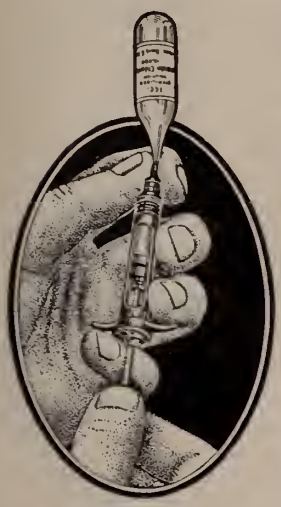
V. H. Hulen, Houston, Texas (*Journal A. M. A.*, July 15), describes his method of extraction of cataract in its capsule, recently described by him in the *Ophthalmic Record*, December, 1910. He believes it includes the necessary ease of performance and gives good results. The steps are given by him as follows: 1. The usual preparation and dilatation of the pupil. 2. Cocain and epinephrin for local anesthesia and blanching. 3. Introduction of the speculum and section in the limbus, including one-half its circumference, raising the conjunctiva without severing the flap; then introduction of fine silk suture, followed by cutting the bridge. 4. Iridectomy, if it has not already been performed, is desirable. 5. Remove the speculum and wash away any blood in the anterior pupil, obscuring the pupil, with gentle stream of warm saline solution. 6. The lids are held apart by the assistant, the upper with the lid hook, the patient looking straight ahead. 7. The cup of the vacuum extractor is introduced from the side through the section and gently placed on the anterior capsule over the center of the lens. If the pupillary margin is everywhere free the nurse is told to turn the cock of the gauge and the vacuum cup then rigidly grasps the capsule; the capsule then should be slightly lifted and rotated on its anteroposterior axis to sever the suspensory ligament; then, with the upper edge slightly advanced, the cataract in its capsule is slowly and gently lifted out through the pupil and section. 8. The suture is immediately tied and safe from the loss of vitreous, the edges of the coloboma may be replaced with the iris repositor and the usual toilet of the eye completed. Hulen calls particular attention to the advantage of the flap suture, tied on delivery of the lens, in all cases of capsule extraction. These advantages are realized through the whole healing process. The advantages of vacuum fixation are the firmer pressure and control and the dispensing with manipulation. The delivery may be hastened or retarded, as desired. The exact amount of vacuum for fixation of cataracts of differing consistencies will have to be determined by experience. Too little may allow the lens to slip and too much might embarrass the operation by disintegrating a soft lens. He usually exhausts the bottle until his gauge registers from twenty to twenty-five, and he has found this safe and sufficient for the usual senile cataract.

TRAUMATIC CATARACT.

J. A. Donovan, Butte, Mont. (*Journal A. M. A.*, July 15), advises in case of a traumatic cataract, if the patient is seen immediately or soon after the injury, after recovery from the shock and before the local reaction has made careful work almost impossible, that the lens should be extracted. This can be done under local anesthesia, though a general anesthetic is preferable in many cases. If local reaction is already marked one should wait from four to six days when it subsides, and then remove the lens before the secondary inflammatory symptoms have become severe. A general anesthetic is then necessary. Breaking up the lens and washing it out may succeed but extraction, he thinks, is in many cases better. If there is a large central corneal wound or if the lens has been badly mutilated, cutting it up with the cystotome and washing it out is the operation of choice. Great care should be used in this to avoid injuring the zonula or the vitreous with which the lens may be mixed up. In children or young people, if there are no positive indications of a foreign body in the lens, a safer and more simple procedure is to extract by suction with a needle, and an ordinary hypodermic will do with children, care being taken not to enter the vitreous. Turning the needle so as to watch its opening is advisable. In older patients or when there are particles in the lens, the regular combined or simple extraction is preferable and he prefers to perform iridectomy, especially in severe lacerated cases. With a foreign body imbedded in the iris it is necessary, making the incision as near as possible to the imbedded body. After the extraction he fills in between the lids with a 1 to 5,000 mercuric iodid germicidal ointment, using the standard strength if the eye is clean and double that if infection is probable. Though in a normal eye this ointment might be irritating, in an injured eye it acts otherwise and, besides being a germicide, it prevents adhesions of the lids and dressings. The pupil must be kept dilated and the ointment used once, twice, or oftener if needed, each day, and other treatment as indicated. He believes that for the first three or four days salicylates are of advantage. In spite of the extra traumatism and apparent increased risk of infection this early removal of the injured lens is followed by less reaction, less pain, less difficulty in maintaining dilatation of pupil, and very much more rapid recovery than if the case is left to Nature or operation is delayed.

Sterilized Solutions in

Glaseptic Ampoules



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(FOR HYPODERMATIC ADMINISTRATION.)

Convenient: Ready for instant use. It is no longer necessary to wait until water can be sterilized and cooled. Each ampoule contains a definite quantity of medicament, an average dose.

Aseptic: The solution is asepticized by heat or filtration through porcelain. The active substance is dissolved in a suitable menstruum—washed olive oil, distilled water or physiologic salt solution.

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OUR ASSORTMENT INCLUDES:

ADRENALIN CHLORIDE SOLUTION, ℞ 1 and ℞ 2 (℞ 1, 1:10,000; ℞ 2, 1:3200).—Used in asthma, shock, inaccessible hemorrhage, chloroform and opium narcosis, etc. (1 Cc. ampoules.)

ARSENITE OF IRON (1 grain): Iron Arsenite with Ammonium Citrate.—Used in the treatment of dry, scaly forms of cutaneous disease, anemia, chlorosis, etc. (1 Cc. ampoules.)

ARSENITE OF IRON AND STRYCHNINE: Iron Arsenite with Ammonium Citrate (1 grain) and Strychnine Nitrate (1-65 grain).—Used in atonic dyspepsia with anemia; chlorosis; malnutrition, convalescence, etc. (1 Cc. ampoules.)

CACODYLATE OF SODIUM:

¾ **Grain.**—Used in the treatment of anemia, the malarial cachexia, syphilis, neurasthenia, psoriasis, and generally as a substitute for Fowler's Solution. (1 Cc. ampoules.)

3 Grains. – Intended especially for use in the treatment of syphilis. (1 Cc. ampoules.)

CAFFEINE AND SODIUM BENZOATE (7½ grains, equivalent to 3¾ grains Caffeine).—Used as a diuretic, heart stimulant, cerebral stimulant, etc. (1½ Cc. ampoules.)

CAMPHOR IN OIL (3 grains): Olive Oil in Camphor —Used as a diffusible heart stimulant in nervous depression, etc. (2 Cc. ampoules.)

CODRENIN, ℞ "C": Adrenalin (1:10,000) and Cocaine Hydrochloride (¼ of 1%).—Used as a local anesthetic in dentistry, and in ophthalmic, rhinologic and general surgery. (1 Cc. ampoules.)

ERGOT ASEPTIC (equivalent to 30 grains Ergot).—Used in the treatment of uterine inertia, metrorrhagia, menorrhagia, collapse, pulmonary hemorrhage, etc. (1 Cc. ampoules.)

EUDRENIN, ℞ "B": Adrenalin (1:10,000) and Beta Eucaine Hydrochloride (¼ of 1%).—Used as a local anesthetic; preferred by some operators to preparations containing cocaine. (1 Cc. ampoules.)

FERRIC CITRATE, U.S.P. (2 grains).—Used in chlorosis, anemia, etc. (1 Cc. ampoules.)

PITUITRIN: The active principle of the infundibular portion of the Pituitary Gland.—Used as a heart stimulant in shock, after severe hemorrhage, in exophthalmic goitre and cardiac neuroses; a valuable diuretic. (1 Cc. ampoules.)

QUININE AND UREA HYDROCHLORIDE (1%).—Used as a local anesthetic. (5 Cc. ampoules.)

Descriptive matter on any or all of the solutions above mentioned will be sent, postpaid, on receipt of request.

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THERAPEUTIC NOTES.

STERILIZED SOLUTIONS FOR HYPODERMIC USE.—In view of the pronounced demand for sterile "ready-to-use" solutions of definite dosage, to be administered hypodermically, Parke, Davis & Co. some time ago decided to place a number of such solutions at the disposal of the profession in a form that would make their use both convenient and economical. "Sterilized Solutions in Glaseptic Ampoules" is the term used to designate them, and the company announces about a dozen preparations which it is prepared to supply.

The sealed glass ampoule removes the liability of contamination and deterioration, and eliminates the inconvenience attaching to the preparation of a solution whenever an emergency calls for its use. Moreover, it insures medicaments of established purity and strength. Each package contains a small file by means of which the neck of the ampoule is nicked, so that it may be readily broken off, thus opening the container. An ordinary hypodermic syringe is used. To withdraw the liquid, the needle is inserted to a point about midway of the sloping shoulder while the ampoule is held in a vertical position; by this means the solution is removable, we are told, to the "last drop."

Our readers are advised to consult the display announcement of these sterilized solutions appearing in the advertising pages of this issue of VERMONT MEDICAL MONTHLY, which gives a complete list of the preparations as well as some important suggestions for their use.

EXTERNAL EYE DISEASES.—The most frequent forms of diseases of the eye are those located in the mucous membrane of the eyelids, (conjunctiva). When left alone they are not only a source of annoyance and suffering but often endanger the sight. The frequency of these external affections of the eye has made their treatment one of the richest mines for quacks from the oldest times. All general practitioners of medicine are frequently called upon to treat these diseases, which they can do successfully with perfect safety and not be under the necessity of sending their patients to the oculist. It will be readily recognized from the formula of Palpebrine that it is composed of ingredients of no untried remedies but of such as are entirely reliable in the treatment of all external eye diseases. No detrimental effects can come from its use ad liberatum. Palpebrine is superior in its action to the remedies now in use. It contains all the constituents of Aqua Conradi, which is recommended by the renowned professor of the Vienna University, Ferdinand von Arlt (see Clinical Studies on Diseases of the Eye, by F. Ritter von Arlt, translated by L. Ware, page 23.)

The Dios Chemical Co. of St. Louis, Mo., will mail free sample with formula and literature on application.

TUBERCULOUS TAINTS.—Cotton seed oil has proven a very valuable tissue nutrient in patients with a "tuberculous taint." When it is remembered that cotton seed oil possesses pronounced nourishing properties, probably much more so than any agent now employed for the purpose, its power to add strength to weak tissues and overcome a tuberculous tendency will be appreciated. The best mode of use of cotton seed oil is its emulsion, known as NUTROMUL (Brown's Cotton Seed Oil Emulsion).

NUTROMUL is a pleasant product, containing a high percentage of the oil, which is fortified by the additions of the hypophosphites of lime, soda and manganese.

If you have not received a sample, drop a request to the Nottoc Laboratory, Atlanta, Ga.

CYSTOGEN-APERIENT (GRANULAR EFFERVESCENT SALT).—This product is an excellent example of that type of worthy proprietary medicines which cannot be extemporaneously compounded and can be manufactured only by skilled chemists with the full facilities of a large laboratory. The formula has always been open to the profession and the advertising has been free from the objections so often urged against proprietary medicines. It is not presented as a saline purgative, but as a rational therapeutic aid wherever treatment is based on *elimination* of waste products. The formula shows that each teaspoonful contains

Cystogen ($C_6H_{12}N_4$).....gr. v.
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Cystogen-Aperient, it will be seen from the above, combines the laxative and tonic properties of sodium phosphate and tartrate with the urinary-antiseptic and solvent action of cystogen.

THERAPEUTIC ACTIVITY PLUS PALATABILITY.—The popularity of a remedial agent that is therapeutically active and palatable, is assured, for beyond these qualities there is nothing to be sought. These are the features of Cordial of the Extract of Cod Liver Oil Compound (Hagee) that make it such a favorite with physicians.

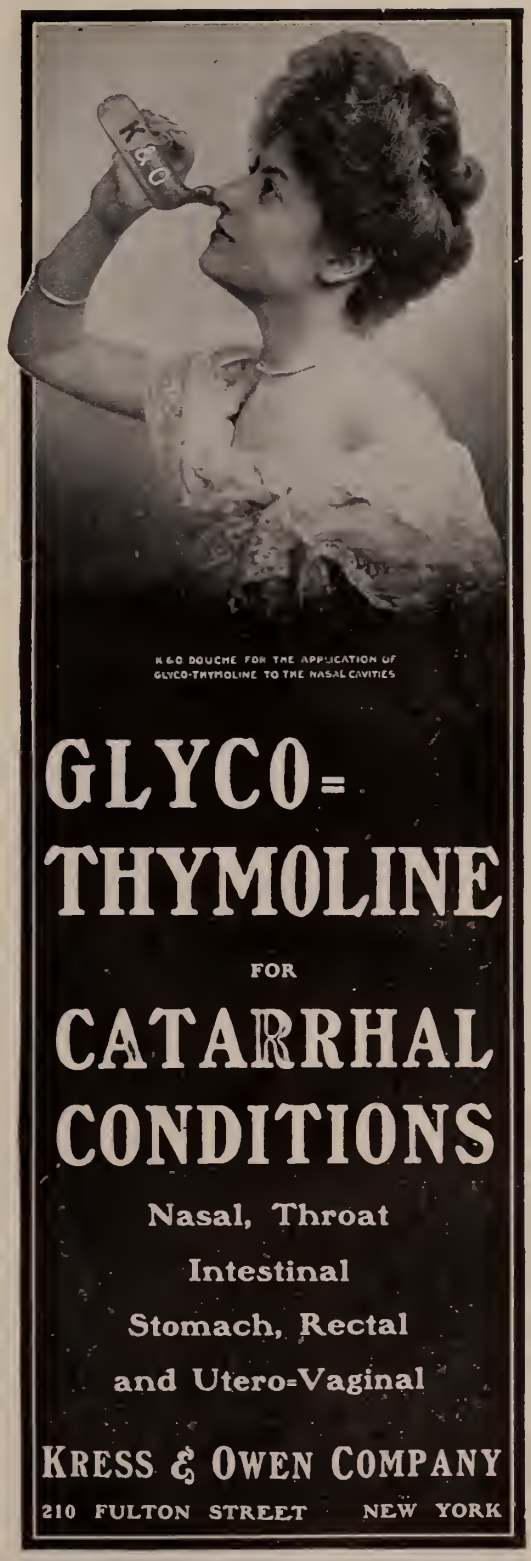
As a reconstructive and tissue nutrient, it stands the most rigid clinical tests and the prescriber may feel sure that definite results will follow its administration. One of its fields of usefulness is in the protracted convalescence consequent upon a severe infection such as typhoid fever. Cord. Ext. Ol. Morrhuae Comp. (Hagee) stimulates the reconstructive functions and aids materially in hastening the return of health.

"TREATMENT OF CHOREA IN CHILDREN."—John Allan, of Edinburgh, in the *American Journal of the Medical Sciences,* Feb., 1910, gives seme salient points in the treatment of chorea, advocating (1) Rest. this is the chief point in the treatment of patients suffering from chorea, and applies to all cases. This means rest in bed. The time depends upon the case in question, but no longer than 5 or 6 weeks is necessary, and even after that the child should take things easily. One must remember that endocarditis is a complication of chorea and hence rest is doubly indicated. (2) Isolation—this should be carried out in acute cases. The child should be enveloped in cotton wool and pro-

tected in other ways from the shock of tossing about in bed. (3) Diet. The author describes Goodheart's diet in his regime, and adds by stating that the diet must be nutritious and easily digested and must consist chiefly of bread, butter, eggs, fish, chicken, rabbit, minced meat, milk, green vegetables, potatoes and plain puddings. Tea, coffee and all sweet things should be avoided. (4) Bowels. These should be kept open by the use of calomel. (5) External applications. Warm baths are very beneficial and cold sprays during convalescence. Massage is of great value. (6) Drugs. Allan has little faith in the drugs usually advised, namely the salicylates and the bromides, but believes arsenic the best drug if given in large doses. Of late the author has used acetyl-salicylic and with excellent results. The dose is gr. X every 4 hours. Trional is recommended by Voelcker, strychnia by Trousseau. Strophanthus should be given for the heart. During convalescence, tonics of iron and cod liver oil are indicated. The after care: sympathy, kind attention, pleasant surroundings and abstinence from study.—*Pediatrics.*

The Chauffeur's Fracture.—Dr. Wm. S. Thomas (*Med. Record,* March 12, 1910) says that the type of fracture most commonly observed among chauffeurs is a subvariety of the ordinary Colles' fracture, but forms a distinct clinical entity. To start an automobile, explosive material must be sucked into the piston before it is of any use to apply the igniting spark. This suction is accomplished by turning the shaft with manpower, and it is during this starting turn by hand, that the chauffeur's fracture is produced. It is caused by a back kick of the handle when the explosion is timed to occur in the cylinder before the piston reaches its highest point.

The prevailing type of break is one occurring lower on the radius and with milder symptoms than those of the usual Colles' injury which has been acquired by falling upon the outstretched palm. Fracture of the styloid process of the ulna occurred in the author's experience in about 25 per cent. of cases. The break does not often coincide with the line of union of the epiphysis with the shaft, as might be expected,



but rather in the neighborhood. The chauffeur's fracture is usually either transverse or oblique into the wrist joint. Few cases show marked radial displacement or severe silver-forked deformity. The symptoms are sometimes so mild as to be mistaken for those of sprained wrist.

The prevention of this fracture may be obviated by the proper method of grasping the handle, which should be with the fingers and palm only, the thumb lying upon the same side of the handle as does the palm.

Treatment consists of the immobilization of the forearm and wrist in anteroposterior splints. The fingers are left free and the patient is instructed to move them, for by so doing a return to the normal use of the hand will be hastened. Massage should not be omitted, and may be begun immediately. The prognosis is good, and the patient is usually back to work in three weeks.—*Medical Times.*

Club-Foot in Infancy, Treatment of.

It has been recognized that the crux of the problem of dealing with congenital club-foot lies in securing a satisfactory forcible overcorrection of the deformity. The technic of retention in this overcorrected position by means of plaster of Paris has also been perfected. The author lays stress on the fact, however, that mere retention in this position will not bring about a permanent cure. The most potent factor at our command for the cure of club-foot is the influence of weight-bearing upon the foot held in an overcorrected position. Since this factor is not available until the tenth to the twelfth month, it is unnecessary, the author contends, to maintain overcorrection by means of plaster of Paris until a period shortly before this. On account of the greater size of the foot, both the overcorrection and the retention dressing are more satisfactorily made at this time than in the first few months of life. Because of the greater age of the child, the correction as above suggested is much less objectionable to the parents. The period elapsing until the time for forcible correction has arrived is not to be spent inactively, however, but is to be utilized for increasing the flexibility of the foot by manipulations, accomplishing a partial correction of the varus by means of a splint. The daily removal of the splint gives opportunity both for massage of the limb and active muscular effort on the part of the child. It is believed that by this means the residual atrophy of the leg muscles is held to a minimum. The whole period of treatment under this plan is not longer than under the older plan. One anesthesia will, as a rule, suffice, whereas under the older plan several such administrations were usually required.

Tenotomy of the tendo Achillis for the correction of equinus should on no account be made until the other elements of the deformity have been disposed of. The equinus can be easily corrected at any time by tenotomy and proper after-treatment. The constant pull of the tendon upon the heel favors the development of the posterior process of the os calcis; early tenotomy does the reverse. It is also of great advantage as a counter pull in making the overcorrection of the varus deformity. The equinus element may therefore be ignored in the infantile club-foot until the time for the final correction under anesthesia. A. H. Freiberg (*Ohio State Medical Journal*, April, 1910).

Cyclic Vomiting.—*The Medical Record* observes that there are few diseases of childhood the etiology of which has provoked more divergent opinions than the periodic occurrence of vomiting which for want of a better name is termed cyclic vomiting. This affection was thought at first to be of purely neurotic origin; then the discovery of acetone in the breath and urine caused the disease to be classed as an acidosis, and to be treated by the administration of large doses of alkalis. Better knowledge of the presence of acetone and diacetic acid in the urine demonstrated, however, that these substances might appear in a child with protracted vomiting from any cause, or even in other conditions in which deprivation of food caused a certain degree of starvation, without the accompanying emesis. The acidosis and acetonuria were therefore accepted as a result rather than as a cause of cyclic vomiting. Langmead, of London, considered the condition to be caused by an intestinal intoxication with absorption of a fat splitting poison which resulted in the tissues being flooded with acetone and the other products of fat metabolism. Comby's theory, on the other hand, is that the symptom complex is a manifes-

tation of chronic appendicitis. Russell (*Brit. Jour. Children's Diseases,* Feb., 1910) reported a case in many ways suggestive of at least a possible cause: The patient, a boy of four years and nine months, had suffered from periodic attacks of vomiting from birth, of about 24 hours' duration; his final attack was more prolonged, and was interrupted by by a remission. The first part of this lasted a week and was characterized by frequent vomiting, rapid emaciation and the presence of acetone and diacetic acid in the urine. This stopped as abruptly as it began; but after three weeks of apparently good health, it recurred; and at the end of five days the child succumbed. The autopsy showed a marked degree of hypertrophy and stenosis of the pylorus. Russell, while not claiming that such a hypertrophic stenosis of the pylorus is the usual or even the common cause of cyclic vomiting, considers it a possible etiological factor. Recurrent spasm of a hypertrophied pylorus would at least explain the sudden onset of cycling vomiting (with the beginning of the spasm) and its equally prompt relief with the cessation of the spasm.—*Medical Times.*

Alcoholism and Offspring.—Miss E. M. Elderton, Galton research scholar in the University of London, and Prof. Karl Rearson report the result of an investigation which has been conducted as to the effects of the alcoholic habits of parents upon their progeny. More than three thousand children were examined. The following conclusions were reached: (1) The death rate is somewhat higher among the children of alcoholic than among the children of sober parents; more marked in the case of the mother being a drunkard than in that of the father. (2) The weight is slightly greater among the children of the sober. (3) Parental alcoholism has no marked effect upon filial health. (4) Parental alcoholism is not the source of mental defect in the offspring. (5) The relationship, if any, between parental alcoholism and filial intelligence is very slight. (6) Vision is somewhat better among children of alcoholic parents. In summing up the *Medical Record* says that no marked relation was found between the intelligence, physique, or disease of offspring and parental alcoholism in any of the categories investigated. In regard to the question as to whether the children of drunkards inherit a predisposition to alcoholism no conclusion was come to. However, the investigations seemed to show in a decided manner that children do not inherit marked disabilities in consequence of the drinking habits of their parents. Of course the outcome of these investigations cannot be regarded as by any means decisive. The examination of three thousand children is on a too limited scale to warrant the passing of a final judgment, but the results of the investigation appear to point to the view that the harmfulness of alcoholism, so far as it directly affects the physical and mental health of the offspring, has been greatly exaggerated. If the children of drunken parents are brought up in the same way as the offspring of sober parents, they will be no way inferior to them by reason of their parents' intemperance.—*Medical Times.*



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"Benign Pseudo Trachoma of School Children."—Alger, writing in the *Post Graduate Journal*, 1910, doubts the great prevalence of so-called trachoma of school children, and he believes that many of the cases are due to other causes, as the gonococcus, Koch-Weeks bacillus, or the bacillus of Graefe. The symptoms in the majority of cases are redness and irritability of the eye, with profuse muco-purulent discharge. The conjunctiva of the upper lid is markedly thickened and very red. The eye feels as if it were filled with sand and there is intense photophobia. It runs a course of a week or two, unlike real trachoma, relapses occur year after year and finally there is a scar tissue formation of the lids. This may be considered a spontaneous cure, but not so in all cases. In some there is permanent damage done, with the formation of trichinosis and entropion. Corneal ulcers follow, leaving permanent opacities.

A sharp distinction should be made between papillary trachoma (true) and the follicular type, which later may result from many causes, and is perfectly harmless, and constitutes the great number of cases called trachomas in school. This condition runs a mild course, is characterized by lack of subjective symptoms and pale frogspawn like granules on the conjunctiva, especially in the lower lids and upper fornix. It occasions none of the symptoms of true trachoma and is followed by none of the sequellae. This is nothing more than adenoid enlargement of the glands of the conjunctiva and is due to dirt and dried secretions and it is not contagious.

Treatment. Follicular conjunctivitis needs little treatment save general attention to the health of the child, etc., and internal tonic treatment. The author uses, as local treatment an ointment of copper citrate, and then discusses the expression operation usually done for these cases, stating that permanent scars and adhesions result, leaving deformed eyes, and after all are of no value anyway, and concludes by stating that true trachoma is of rare occurrence.—*Pediatrics.*

Normal Human Blood Serum as a Curative Agent in Hemophilia Neonatorum.—Dr. J. E. Welch (*Am. Jour. of Med. Sciences*, June, 1910) says that the causes of these hemorrhages are probably due to different factors. It is possible that some are true cases of hemo-

philia, while others are due to some infection. The hemorrhages are sometimes due to a bacteriemia caused by the streptococcus, staphylococcus, and in some cases a bacillus. Normal human blood serum is known to be bactericidal in action. In the author's hands it has never caused serum sickness or anaphylaxis in the human subject. Normal human blood serum is a perfect form of food, already digested and ready to be taken up and utilized by the tissues and cells of the body, so that without dissipation of energy regeneration may progress with a maximum of efficiency. When bleeding is from the gastrointestinal tract, nourishment from this source is impossible, but when placed under the skin normal human blood serum is quite readily removed from the site of infection. It may be that the hemorrhage in some cases is controlled by the nutritive effect on the body tissues of the infant, while in others it is possible that a thrombokinase is supplied. It is advisable to begin with at least 10 c.c. and repeat three times a day if the infant is bleeding only moderately. In severe cases it should be given every two hours, and in larger quantities if necessary. It is very important to begin the treatment at the first indication of bleeding, however apparently insignificant. Slight bleeding of the cord may be accompanied by fatal internal hemorrhage if not stopped immediately. The blood is very easily collected. The apparatus he has devised consists of a rubber cork, through which are two perforations. Through one perforation is fitted a U-shaped glass tube, to the outer end of which is attached, by means of a piece of rubber tubing, a short aspirating needle having a No. 19 caliber. The needle is cotton plugged into a small test tube, in which it is sterilized. Through the other perforation is inserted a fusiform glass tube containing cotton, to prevent contaminating the contents of the flask. A small suction tube is placed on this latter for drawing the blood into the flask. The needle is inserted into a vein at the elbow and the desired amount of blood withdrawn. The blood is allowed to coagulate in a slanting position in the flask, and the serum is withdrawn as rapidly as it separates, and it is then ready for use.—*Medical Times.*

Many a patient is permanently crippled after a Pott's fracture because the toes have been allowed to drop or the foot everted while applying the retention splint.

Case of Bilateral Tubal Pregnancy with Rupture on Either Side.—Wilson (*The Australian Medical Gazette*) mentions the case of a patient, a one-para, æt. 30, who was sent into the hospital with a diagnosis of ectopic pregnancy. She was markedly collapsed, with sighing respiration, pulse rate of 146 to 150, temperature of 97°, and extremely pallid. The menstrual period was five days overdue, and two days before admission the patient had been taken with sudden abdominal pain in the right side and had fainted. The following day she had a similar attack, the pain being mostly left sided, and had fainted several times during the day. Abdominal section was done at once on admission and revealed the abdominal cavity full of fresh blood. Both tubes were partly distended with blood clot. The left tube was ruptured in two places about half an inch from the uterine cornu, and the right tube in one place at about the same situation, and bleeding was going on from all three ruptures; but the rupture on the right side did not look so recent as the left sided ones. Both tubes were removed; the ovaries, being normal, were left. There was a recent corpus luteum in the left ovary. After clearing out as much blood clot from the abdomen and pelvis as possible the peritoneal cavity was filled with saline and the incision closed. The patient was given three pints of saline and adrenalin intravenously before the radial pulse could be counted, but after the first few days recovery was uneventful. There was no history of a decidual cast being passed from the uterus, and owing to the patient's precarious condition the uterus was not curetted at the time of operation. He believes

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that this is the first case of bilateral tubal pregnancy recorded in Australia, and is of interest because this condition is rare, and also from the fact that the period of gestation in both tubes was the same, and that rupture had taken place in both tubes at the time of operation, apparently on the two previous days. The writer infers that this was probably an example of simultaneous conception in both tubes, from the fact that there was only one corpus luteum seen, and that both sacs were of about the same size and were both ruptured.

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The Mouths of Alcoholics seem to be especially alive with bacteria that are likely to invade the lungs; and the mucous membrane of this region makes good soil for the cultivation of the tubercle bacillus. Besides, neurasthenics and hysterics augment the number of dipsomaniacs whose feebleness increase phthisiogenic activity; the latter are thus a social peril by reason of their dissemination of the infective material of tuberculosis.—*Med. Times.*

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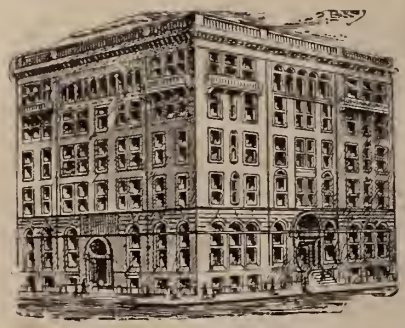
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Dressing for Circumcision Wounds.

Hermann B. Gessner, of New Orleans, writes that for infants the dressing for circumcision wounds consists simply of a copious application of 2-per-cent. carbolized petrolatum, with a light wrapping of sterile gauze. At every change of the diaper the petrolatum and gauze are renewed. On adults a dressing that is just where it is needed and nowhere else, that makes the proper degree of pressure and no more, is applied in the following way: The sutures of catgut when tied are cut long, say three inches long. A strip of gauze, long enough to more than encircle the penis, is rolled into a cord about ½ inch in diameter, and one end is tied between the two strands of any one suture. It is then placed between the two strands of the next suture, which are tied down on it. This is repeated until the end of the gauze roll is brought around to the initial suture, between whose strands it is now again tied. Thus a gauze dressing is applied directly to the circumcision wound, on which it makes more or less pressure according to the traction made on it while tying down the suture strands. It does not interfere with urinating, nor does it become saturated with urine. Removal is readily effected, after three days, by cutting the catgut knots that hold the gauze in place and soaking the penis in a basin of warm water. A strip of ZO adhesive makes a satisfactory collar at this stage of the case.—*Interstate Med. Jour.*, Aug., 1911.

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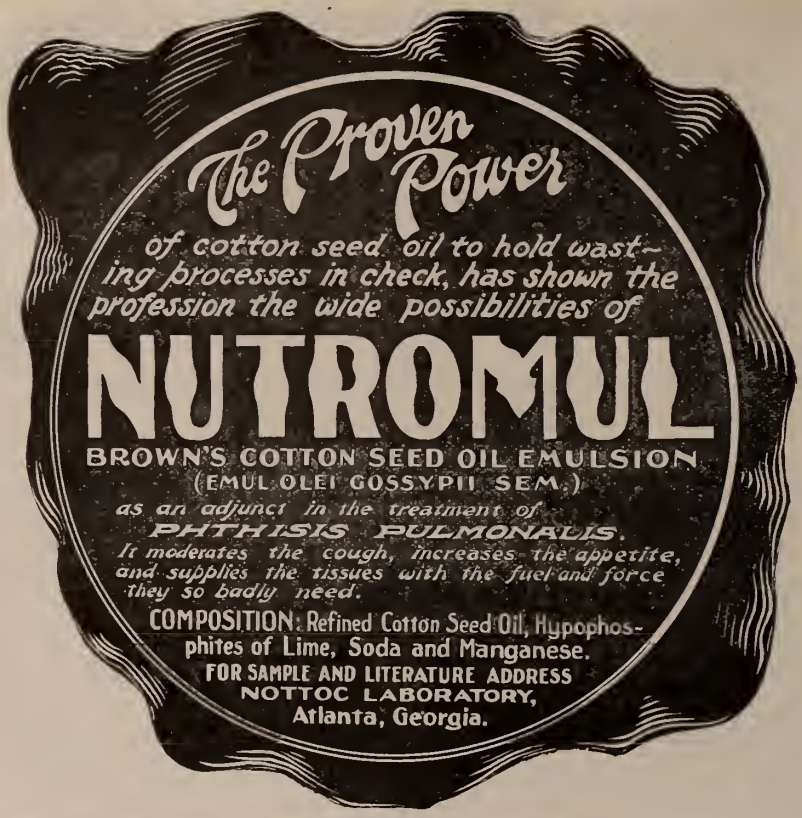
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VOL. XVII. OCTOBER 15, 1911. NUMBER 10.

ORIGINAL ARTICLES.

WHAT STANDARD OF EFFICIENCY SHOULD BE REQUIRED OF PHYSICIANS IN ORDER TO GUARANTEE THE BEST MEDICAL SERVICE TO THE PUBLIC AND HOW SHOULD THAT STANDARD BE DETERMINED?*

BY

H. C. TINKHAM, M. D.,
Burlington, Vt.

PRESIDENT'S ANNUAL ADDRESS.

The meaning of efficiency is so abstract that it would be exceedingly difficult, if not impossible, to define it in a concrete way. The term "efficient" must be applied in a great many ways and to a great variety of standards, these depending upon the amount or kind of skill or technical knowledge required; for example, a standard of efficiency which would be satisfactory for a blacksmith would not be satisfactory for a watchmaker; and an efficient chemist, as such, would not be an efficient bacteriologist; the president of a railroad may be most efficient in working out the principles of railroad transportation yet be entirely lacking in the technical knowledge required in many departments of his business; the captain of a steamship may be of the highest order of efficiency in the science of navigation yet be ignorant in the technical knowledge required of the chief engineer or electrician; but the president of a railroad or the captain of a ship to be efficient must be able to understand and apply the technical knowledge of the various departments. It is not necessary, in fact it would be folly, for either of them to attempt to do the technical work required in the different departments, their efficiency does not depend upon their doing detail work but rather upon their ability to correlate and utilize the results of the technical work of others.

*Read before the 98th Annual Meeting of the Vermont State Medical Society.

Standards of efficiency are also changing; they must naturally be higher as scientific knowledge increases. We have an excellent illustration of this in the navy. The battleship Oregon that only a few years ago was the pride of the navy is now an obsolete type, her speed is too slow, her armor too light and her battery too weak. This last summer the battleship Texas, built only two years before the Oregon, was so out of date that her greatest usefulness consisted in being a target for rifle practice for the newer and more efficient ships. It is only a few years since these ships represented the highest efficiency of fighting machines but the advancement which has been made in the scientific knowledge of naval warfare has relegated these ships to places in history.

These illustrations of the advancement of scientific knowledge are not isolated cases in one department of science; they are fair illustrations of the conditions of progress in scientific subjects generally.

The advancement in the scientific knowledge of medicine has, perhaps, been even more rapid than has been made in most of the departments of science, and knowledge that represented the most advanced ideas in regard to medical subjects a few years ago has become obsolete. The discovery of the cause of so many diseases and the establishment of means for the prevention of these diseases has revolutionized the subject of medicine and has placed preventive medicine first and practice of medicine second in order of their importance. The vastly improved methods of diagnosis and treatment of disease have also very largely done away with the empirical ideas of a generation ago and placed the treatment of disease on a logical basis.

It is not necessary for me to dwell upon this rapid advancement in the knowledge of medicine only as it clearly points to the necessity for new and decidedly higher standards of efficiency for physicians. The great amount of additional knowledge which has been and is being required in medicine has necessitated rapid changes in the standard of efficiency for physicians. The standard of ten years ago as represented by the requirements for the degree of Doctor of Medicine does not meet the standard

of efficiency of today, and the standard of efficiency of today probably will not meet the standard of the next decade.

This increase in medical knowledge has developed in so many and in so diverse lines and has necessitated the acquiring of so much technical knowledge in so many subjects that it is entirely beyond the possibility of one individual to become proficient in all the departments of medicine, nor is it necessary that he should be proficient in all in order to be thoroughly efficient as a general practitioner.

The discovery of the cause of diseases like the exanthemata, typhoid fever, cholera and bubonic plague has opened up a large field for technical scientific work in laboratories. This is work that cannot be done satisfactorily by the practicing physician, it requires specially trained men in order to insure satisfactory results. The results of this technical work have given such an insight into the ways by which these diseases are communicated that it has been possible to provide means for their prevention which have been of greater benefit to mankind than all that has ever been accomplished by the improved methods of diagnosis and treatment of disease, and the advancement that has been made in the methods of diagnosis and treatment of disease has been truly wonderful. I believe that the continuation of this scientific work is sure to increase the knowledge of preventive medicine so that it will be of still greater service to the public in preventing disease in the future, and will give us new methods of diagnosis and treatment that will make the control of disease more complete.

This work of physicians on Boards of Health has been of the greatest importance. We can see something of the magnitude of this work in saving life if we compare the terrible loss of life caused by epidemic disease before the days of Health Board regulations with the loss of life from the same causes now. The death rate in London three centuries ago was 80 in 1000 population; under present conditions it is 15 in 1000 population. In the United States the health conditions as shown by the mortuary reports have improved wonderfully in the past decade. During the period from 1900 to 1908—eight years—the change in the death rate per 100,000 population in a few of the more common diseases gives an idea of the general advancement in preventive medicine. The deaths from diphtheria have been reduced in eight years from 70.1 per 100,000 to 22.3; the deaths from malaria from 21.2 to 2.5; the deaths from typhoid from 46.3 to 25.3; and the deaths from tuberculosis from 245.4 to 173.9. It is computed that this Health Board work has been the means of saving 85,000,000 of lives during this period, or 360,000 lives each year.

Some idea of the results of the work of our own State Board of Health may be had from the report of Dr. H. D. Holton, president of the board, given at the last meeting of the health officers of the state. The total number of deaths in the state from typhoid for the six years previous to establishment of the Board of Health was 698. For the six years just ended it was 354. From tuberculosis during the first period 4,545, during the last period 2,698. From scarlet fever during the first period 423, during the last period 61. From diphtheria during the first period 896, during the last period 260. These facts need no comment; they show the definite results of preventive medicine. We should also consider in this connection the great amount of suffering which has been averted and the great financial saving which has come from preventing widespread and long continued sickness.

Boards of Health as a rule are not composed of physicians who are efficient in technical or laboratory work, they do not attempt to do this technical work but arrange to have it done by efficient laboratory men, they are, however, men who understand the importance of this scientific work and who are able to correlate and apply the results in a general way for the public good. They do not have to do the technical work themselves in order to be efficient members of Health Boards but they must provide for this scientific work and be able to utilize it if they are to be efficient.

This work in preventive medicine must become more largely the work of the family physician in the future. The old idea that the work of a physician was only to treat people when they became sick is fast becoming obsolete and the public is looking more and more to physicians for information which will make it possible to avoid sickness. The work in preventive medicine from now on should not be left for Health Boards entirely, it should be the duty of every physician to endeavor in every way to preserve the health of the families who employ him, to prevent disease so far as it is possible, and to

treat disease when it cannot be prevented. The physician who does not interest himself enough to determine whether a local water supply is fit for use or who does not take the initiative in giving all information he can to promote health and prevent disease has, in my judgment, altogether too low a standard of efficiency for a physician. The result would be the same whether the physician actually spread contagion and thereby produced disease or through indifference allowed conditions to exist which would produce disease.

We have shown by the results of Health Boards in saving life and preventing disease that it is not at all essential for physicians to be efficient laboratory men in order to be efficient members of Health Boards. We believe the same is true of physicians who serve the public as general practitioners and that it is not necessary that they be efficient in all departments of medical science which require technical knowledge in order to be efficient as general practitioners, any more than it is necessary for them to have this technical knowledge to be efficient on Boards of Health, but we believe that it is necessary that they have a full conception of the importance of such technical work and that they be able to interpret and apply this knowledge in general practice in order to be efficient as general practitioners. As I have said, it is not possible that physicians can become proficient in all the varieties of technical work that are now made a part of routine medicine, and it seems improbable that physicians can acquire a sufficient amount of this technical knowledge in addition to what they must have in general medical subjects to be in a position to serve their patients efficiently in that part of medical work. In order to be proficient in any technical work one must have a considerable amount of regular routine work in that subject and it does not seem to me possible that the amount of laboratory work which would be available in the ordinary practice of a physician would be sufficient to give the amount of routine work necessary to keep a physician proficient in any of the several lines of technical work which are now required, and if one was not proficient in this work and the laboratory findings were not correct this work would become a source of positive danger.

The physician who does general practice should be a general in the sense of being able to have at his command all the various agencies which may be used in battling with disease, and be able to utilize them all to the best advantage in preventing disease and in caring for the sick. He should not try to do the detail work of all the officers in his corps but he should direct this work for the common good of his patients.

In addition to this technical work of laboratory examinations the practitioner is confronted by the great amount of more or less technical knowledge of the special departments of medicine and surgery. When we consider that each one of these special subjects is large enough to require the entire time of a physician in order to become proficient in the knowledge of the subject, it would seem to me impossible for the general practitioner to become sufficiently proficient in all the special subjects of medicine and surgery so that he should consider himself qualified to have the unaided care of these cases. He would neither have sufficient time at his disposal to keep thoroughly informed in them all or a sufficient number of patients in each of the special diseases to give him sufficient experience. Of course he must have a general knowledge of the diagnosis and treatment of special diseases, for the general practitioner must of necessity see these cases first and should be able to recognize them. The general practitioner should not feel, however, that he is required to assume that he knows all there is to know of all the various subjects of medicine in order to retain the confidence of the people and to maintain the proper degree of professional dignity. Such a feeling can only come from a very narrow professional horizon. The physician should be alive to the best interests of his patients and should see that they have the most skillful service possible for the treatment of all conditions. The frequent calling of consultations for those who can have this service, or securing the gratuitous services of specialists in hospital service for patients who are unable to pay for such service, does not injure the reputation of the physician doing general practice but does establish him in the confidence of the community by securing the best medical services available for the patient.

The general practitioner should be the medical director of the household and be responsible in a general way for the health of its members. He should direct in matters of general hygiene, he should be proficient in physical diagnosis and

should appreciate the importance of laboratory examinations in diagnosis and the advantage to the patient of the opinion of specialists in the special diseases. It is of no special importance that he know the technique of the test for Widal's reaction, it is important, however, that he recognize the symptoms which suggest that this test be made, and it is of much more importance that he determine the purity of the water supply before any one has been infected.

The standard of efficiency which should be required of physicians in order to guarantee the best medical service to the public would be a standard based upon very broad ideas of medical education and medical practice, much broader than those generally adopted today. A standard that requires the broadest conception of responsibility in preventing disease, not only as a public health measure but as to the personal responsibility of the physician for the health of each family and each individual who may reasonably be considered as being under his care. A standard that requires men to think for themselves, to analyze thoroughly all the different aspects of disease as well as the personal equation of the individuals who are sick. A standard that requires a broad conception of all the different methods of determining disease and the ability to interpret and utilize the technical knowledge acquired by laboratory examinations. A standard that requires more practical application of the general principles of medicine, more analysis of the general conditions of health and disease. A standard that involves more proficiency in physical diagnosis and therapeutics, more generalship and less technical work. Such a standard cannot be measured by the ordinary pedagogical standards of hours of instruction, equipment and financial condition, it must come as a result of teaching pregnant with inspiration rather than the routine work of an hireling.

The question of determining and maintaining a satisfactory standard of efficiency for physicians is a very difficult problem. The solution of it involves so diverse interests and so many conditions which are not entirely in harmony that it is not an easy matter to solve. The interests most closely concerned are the medical schools which provide the instruction and the State Examining and Licensing Boards which control medical licensure.

It is apparent that the general character, and amount of instruction given in medical schools must be the most important element in meeting any standard of efficiency for graduates in medicine, and the examinations which are given by State Boards must be the important factor in determining whether this standard has been met or not. The testing of medical graduates became imperative in the days when there was no inhibitory force to regulate medical teaching, when each medical school was a law unto itself and the educational standard it maintained was the result of an admixture of more or less honesty of purpose on the part of the faculty with the financial necessity of the school. The varying proportions of this mixture in different medical schools resulted in vastly different standards of medical education, many of them being very unsatisfactory when considered from the standpoint of efficiency.

This unsatisfactory condition in medical schools has been remedied to a very large degree. The organizations which have been working for a higher standard of medical education and a unification of medical teaching have outlined a curriculum which provides for ample instruction and have suggested conditions that medical schools should meet in order to provide for satisfactory medical teaching. Medical schools have very generally adopted these suggestions so that medical instruction, as a whole in this country, is on a very satisfactory basis and is meeting the conditions which have been suggested, as a standard of teaching that would produce efficient physicians. These changes of curriculum and methods of teaching and standards of education in medical schools have been made very rapidly during the past few years. The standard of efficiency of medical graduates has been raised correspondingly.

The condition of Medical Examining and Licensing Boards has not changed so rapidly. There is no inhibitory force to have an influence in elevating or unifying their standards of requirement, or their methods of procedure. These boards are largely, at least, a political creation and the appointments represent the widest range of qualification, each State Board is a law unto itself and fixes such a standard of medical requirement and determines such methods of rating examinations as they choose. The result is that there are as many and di-

verse standards of medical education in State Boards as there were formerly in medical schools. As a result of this lack of organization and the evident failure of State Boards to keep pace with the rapid advance in medical knowledge and methods of medical teaching, there has developed a very peculiar and illogical condition. Medical graduates are better trained, better qualified and more efficient than are many members of State Examining and Licensing Boards. It certainly is an illogical position for the examiner to be less well qualified than those examined, and it is not logical for those who have had little or no laboratory training to examine in laboratory work men who have been trained in laboratory technique and the interpretation of laboratory findings.

A good idea of the character of the work done by the State Boards and its influence on the standard of medical education may be had from the following rating of an examination paper in anatomy which was sent to ten State Boards in New England and the Middle West. This examination paper was selected from among those written at a regular examination before the Examining Board in the State of Massachusetts. It was sent to ten State Boards with the request that it be rated by them and the value of each answer given. The result is certainly interesting in this connection.

Question		1	2	3	4	5	6	7	8	9	10	Average
State	A	40	70	60	80	75	75	50	60	50	80	64
	B	70	65	95	50	65	85	100	70	40	75	71.5
	C	80	100	100	80	80	50	100	80	80	80	83
	D	75	80	70	90	85	70	95	65	50	75	75.5
	E	67.5	95	85	55	90	90	90	90	72.5	85	82
	F	70	60	75	70	85	40	78	75	00	20	57.3
	G	75	90	50	20	63	66	80	25	15	30	52
	H	60	30	50	40	50	60	100	30	20	50	49
	I	70	70	75	75	75	70	75	72	70	75	72.7
	J	30	50	40	50	50	30	70	30	40	10	40

When State Boards give such widely varying values to the same paper there must be something wrong with the boards or with their method of rating papers.

The trouble seems to be that members of State Boards are not selected on account of their special training or fitness for this work, many of them graduated before laboratory work was a prominent part of the curriculum. It would be difficult if not impossible for these men to keep in touch with the advance in scientific knowledge of medicine unless by association with a progressive medical institution, and medical college men are debarred from State Boards. It seems quite as preposterous to select men without regard to educational qualification to determine the qualification of medical graduates as it would be to secure men for medical educators without reference to their qualification. State Boards should have as thoroughly qualified men to examine in each subject as medical schools have to teach these subjects otherwise their examinations must be of inferior standard. There should also be some standard of efficiency from an educational standpoint for members of State Boards, and there should be some common standard of State Board requirement for a license to practice. A national Board of Examiners composed of men who were thoroughly qualified in the several subjects of medicine and who were trained in the different methods of medical teaching would be an ideal solution. It is very improbable, however, that State Boards of Registration will favor any legislation at present which would tend towards a national Board of Registration, consequently the only chance for improvement must come by improving the personnel of State Boards and their methods of procedure.

State Medical societies are responsible almost entirely for the personnel of the State Examining Boards and it is important that they see that the best men available be nominated for these positions.

It would be a decided step in advance if there was an organization of State Boards which required some standard of efficiency as a prerequisite to membership and which could have some influence in bringing about a more uniform standard of examination.

It is difficult to see how the influence of State Examining and Licensing Boards is to produce an elevating influence on medical education until they are composed of men who are as well qualified to examine medical graduates as the men who compose medical faculties are qualified to teach, and it is difficult to see how State Boards can determine and maintain a satisfactory standard of efficiency for medical graduates unless these boards are composed of efficient men.

ICE WATER OR SUMMER COLITIS AND THE TREATMENT OF MUCOUS COLITIS.

BY

DR. BARNET JOSEPH,

New York City.

During the past few summers I have observed about twenty cases of colitis which seemed to be due directly to the drinking of iced fluids, for, merely prohibiting the ingestion of cold drinks has markedly improved this condition in the majority of the patients.

The subjective symptoms vary from a mild colic to severe cramps and tenesmus. Two complaints are rather characteristic. One is pain around the umbilicus and in the left iliac region, which radiates to the left lumbar region and shoots down the thighs, and the other is that "the bowel does not feel emptied" in spite of a concomitant diarrhea.

Mucous diarrhea is a common objective symptom. Blood stains are not infrequent in the stools.

Like all mucous colitis there is tenderness all along the colon and over the cecum. Dizziness, fainting, headache (in back of head), posterior trachelodynia, lassitude, palpitation, nausea, indigestion and cramps in the lower extremities are complaints common to enteritis of other causes and occur with great frequency in this form of colitis.

Whatever the gastric symptoms may be, in many patients the appetite does not seem to be interfered with, in fact, a few of the patients asked for relief from the almost constant hunger. Perhaps the latter symptom is an effort on the part of nature to supply tissue waste as a result of the diarrhea.

Predisposition is a prominent factor in the causation of summer colitis. Sufferers from constipation of any cause are especially prone to be attacked. All the individuals on whom I had made the diagnosis of summer colitis, had been suffering from constipation for varying periods of time previous to the colitis.

The onset is rather sudden and comes on for the most part during the evening.

Untreated, these patients may become severely crippled in their intestines, and even the most superficial reasoning will demonstrate the direful effects of such a condition of things. Under treatment its course is from a few days to a few weeks. Inasmuch as the treatment of summer colitis is the same as that of mucous colitis, and inasmuch as mucous colitis is more common in the summer months, the two conditions may as well be considered under the same heading.

Let me repeat the timeworn and stereotyped warning—remove the cause. There is no iodiopathic mucous colitis. Still, I am conscience bound to admit that in a goodly proportion of my cases I could not very well remove the cause, for the simple reason that the cause just *would not* be removed.

Among the latter are mucous colitis dependent upon rather marked arterio-sclerosis, certain grades of hepatic cirrhosis, myocarditis, and chronic nephritis.

Whatever the cause of the colitis, if the patients present themselves for treatment during the summer months, it is good therapy to prohibit the taking of iced fluids. And this for a number of self-evident reasons, especially because of the relationship between the greater curvature of the stomach and transverse colon. It is very evident that the pouring in of cold fluids into the stomach (and many people simply throw it in), will give the transverse colon a cold shock, so to speak, and unlike the stomach, it is *not* one of the functions of the transverse colon to equalize the temperature of ingested material. Result, the colon retaliates either by a spasm or a hypersecretion of mucus, or both. More commonly, by both. Then again, cold water drinkers for

the most part, do not know when to stop. One patient told me that in an hour's time he drank the contents of a gallon bottle of cooled spring water. He is an example of the vast majority of iced water drinkers. The stomach cannot empty itself as quickly as it is filled and the result is that the abdominal cavity contains an overfilled pouch of cold water, which chills the organs around it and especially the large sympathetic plexus in its vicinity. One ought to be especially on the lookout for those people who drink much iced fluids with their meals. Some of them claim that they "drink little water even in the very hot days."

In the routine treatment of all but the mucous colitis due to neoplasm of the bowel, I have employed four therapeutic measures with considerable success. The first and what seems to me the most valuable, is an all night application of a cool compress to the abdomen, repeated for several nights (one to ten applications). In many cases of mucous colitis this treatment alone is almost curative. I have not yet seen a case that was not benefitted by it in some way or other. The pain and the usual insomnia are relieved, there is better bowel action, and in time the mucus disappears.

Being impressed by the report of Dr. S. Solis-Cohen, that he was able to relieve the pressure pain of aortic aneurysm by the application of moist dressings of magnesium sulphate, I tried the same in mucous colitis, with better results, it seems to me, than the ordinary cool compress. The method I employ is to dissolve about half an ounce of magnesium sulphate in a pint of water of a temperature of about 75 F. A towel is then soaked in this solution and the excess of water pressed out. It is folded to make a fairly thick pad (four layers) and applied so as to cover all of the abdomen and hang well down the flanks. A binder is put on to hold it in place. Evaporation need not be feared; it is not a sufficiently influential factor, one way or another; little evaporation is desirable anyway.

The next step in the treatment of mucous colitis and one which has given me splendid results, is *rectal irrigation*, either with a Kemp's tube or alternately filling and emptying of the bowel by small enemata. Here too I employ a solution of magnesium sulphate, but use only a drachm to the pint of water at a temperature of 85-90. With either method about two gallons of fluid are necessary. After a few treatments the mucus disappears, pain and gaseous formation diminish and comfort is noted almost immediately.

Another and most effective method of treatment for mucous colitis, is a *milk diet*. Allowing fruit, especially grapes, serves to enhance the value of the milk diet in this condition. In the low grade mucous colitis—that is to say where it has run a chronic course and where there is little mucus and more pain—a milk diet seems to be the only remedy at all effective. If this diet becomes too monotonous some cereal may be given without fear of interfering with the other treatment, but the results are not as good as with milk and fruit alone. From ten days to three weeks is the course of the milk diet treatment. One quart and a half of ordinary milk (exclusive or inclusive of buttermilk) is to be taken during the day and a pint of hot (not boiled) milk before bedtime. All fruits with the possible exception of bananas, are permissible.

The fourth therapeutic measure that has given me excellent results is the administration of crude *tar internally*. I adopted this treatment after reading the results obtained by Wark (*Medical Record*, Sept. 5th, 1908).

The following is what he says about this measure:

"The remedy I have used for many years with unfailing success in the cure of membranous colitis in a large number of cases is the tar yielded by the yellow pine tree (Pinus palustris) of Georgia and the Carolinas. It may be prepared by mixing the tar with about an equal weight of wheaten flour, to make a soft mass. Flour is the best excipient because the gluten swells up and absorbs moisture while traversing the alimentary canal, renders the tar more soluble, and therefore more therapeutically effective. The remedy should be put into gelatine capsules No. 2 and the patient should take two or three one hour after meals. In a few days this treatment, alone, with suitable diet, will cause all the distressing symptoms to undergo very favorable modification. In those cases the tar acts as a most effective and gentle laxative, relieving the constipation remarkably, the quantity of jelly-like matter will be reduced, the stools will assume a more normal appearance and consistence, and the distressing tenesmus will be reduced or quite abolished.

"The highly refined tar supplied by the wholesale druggists to retailers is therapeutically in-

ferior in the treatment of this disease to the cruder article sold by ship chandlers for marine purposes. Vegetable tar yielded by the Pinus palustris has a very complex constitution and it seems that the steam refining processes to which the former is subjected deprive it of some therapeutic principle. Under the treatment I have noted complete recovery can be confidently expected in from four to six weeks."

This remedy has given me such satisfaction that I now employ it on all possible occasions.

Tar should not be used for any length of time where Bright's disease exists.

Of course in spite of all treatment, refractant cases do occur. These are generally secondary to organic disease either in the bowel itself or somewhere else. However, the measures enumerated above are, in my experience at least, always successful in summer colitis and *in almost* all varieties of mucous colitis.

THREE HUNDRED CONFINEMENTS.*

BY

L. W. BURBANK, M. S., M. D.,
Cabot, Vt.

I present this paper for two principal reasons: First that it may cause a free discussion, from which we may all gain helpful suggestions about our work along this line. Second, that I believe we should report our obstetric cases in order that the authors of text-books may have data on which to base their statements concerning the character of work being done by country physicians of today and not compare our work of half a century past with theirs of the present time.

I think I have about the average skill and ability of physicians in our small Vermont towns.

Seven years ago, I reported to this society my first one hundred confinement cases. I now add two hundred to the number. This is a small number compared to the cases tended by some of you who have been practicing during the fifteen years covered by these reports.

My work has been done in a small town (1,100 people). We have no hospital. In a large majority of cases I have no trained nurse. Nearly all of my patients have been of the so-called middle class. There are no rich people concerned, and very few of the extremely poor.

Some of the more dangerous emergencies of obstetrics have been often met, while others, like deformed pelves have been conspicuous by their absence.

In case No. 137, the mother was short and stout, with no marked skeletal deformity but a very small pelvis. She was twenty-four years old at her first confinement. After she had been in labor thirty-six hours, she was given chloroform to complete anesthesia, and the child delivered by a high forceps operation. The child was dead. The perineum was torn too, but not through the sphincter-ani muscle. The wound healed well after immediate suture. Three years later she gave birth to a dead child after being in labor twenty-four hours. The cord was twice about the baby's neck.

Two weeks before the normal termination of next pregnancy, labor was induced and a seven pound boy was born. Mother and baby did as well as after a normal labor at full term.

No. 190 was a primipara forty years of age. She had lateral curvature of the spine, chronic appendicitis and small tubercular area in one lung. Labor was brought on at seven and one-half months, by excessive coughing of influenza, and a three and one-half pound boy was still-born. This was a breech presentation.

About one year later this woman bore a ten pound girl. During her pregnancies the conditions of lung and appendix are more troublesome than at other times.

One patient—now thirty-two years old—has had pulmonary tuberculosis for at least five years. During that time she has given birth to two children, and had at least three pregnancies interrupted as soon as the condition was ascertained. She does her own work most of the time. Has bloody sputum during last part of gestation, but not at other times.

No. 115. The father and mother were rather large, but no physical peculiarities only that the father had a large head with broad forehead and what might well be called square features. They had one boy with a head like the father's, then a thirteen pound girl. Both children caused very difficult labors. When I arrived at the third confinement, labor had been in progress for ten hours and the face was low in the pelvis with chin to the sacrum. The child was dead. Delivery accomplished by craniotomy. The next child had a very large head and it was with much

*Read at meeting of the Washington County Medical Society at Barre, Vt., Sept. 12, 1911.

difficulty that it was delivered. There was a membranous section about two by five inches in the lumbar and sacral region, no bones in the vault of the skull, and the forehead hung down over the eyes. The baby died of convulsions in about a week.

No. 184 was a case where both parents were robust, healthy persons. At the first examination I could not identify the presenting part. The mother was twenty-nine years old, and had not previously been pregnant. The presenting part would not descend into the pelvis. I could find no head either by external or internal examination. The child was delivered by making traction with forefinger in the axilla. The limbs and body were rather large and perfectly formed. It weighed a little over nine pounds and had no head or neck.

The strangest instance of deformed children was that of No. 129. The mother was a primipara thirty-nine years of age. She had strange notions of what a prospective mother should eat. She did not consult a physician, or talk with women who had borne children, but governed herself by the advertisements for a proprietary cereal. Tried to live without any food of animal origin. She was emaciated and weak. After a normal labor of about six hours a six pound girl was born. The baby was poorly nourished, had a low forehead and no bony structure of skull back of frontal bones. There was no palate. The nose and mouth being one cavity. In the occipital region was an encephalocele about the size of the head. The baby died of meningitis a few days after birth. There was a second child—male—about one-half as large as the first with similar head formation. It was dead at birth, but did not look as if it had been so long.

Five years later the mother gave birth to a well formed and well nourished girl. During the later pregnancy she ate like other people.

No. 141 was a primipara twenty-five years old; five feet two inches high and very thin. The husband was six feet one inch and weighed two hundred. All his people were large, and all of her's small. The head entered pelvis R. O. A. but made no further progress. Delivery accomplished by forceps. Slight laceration of perineum sewed at once.

Six years later the mother was confined at eight and one-half months. Labor was normal, of six hours' duration. Ether was used the last one-half hour. The child was alive a few minutes before birth, but was still-born, the cause of which I had no idea.

No. 109. This was a very large woman, twenty-nine years of age. At four previous confinements there had been no red color to the lochia after about twenty-four hours. She never had a nurse capable of taking her temperature, but I arranged this time to have pulse and temperature taken every night for a week. The pulse did not go above eighty, or the temperature above 99½, yet there was no color to the discharge after the first day.

No. 163. A primipara aged twenty-four had been in labor for eighteen hours. The os was about the size of a dollar. It was thick, hard and did not change perceptibly in two hours. She took thirty grains of chloral and had a short sleep, during which she partially aroused herself when the pains came. The thick band-like os became thinner and softer. The child was born without instruments. I could not detect any bad effect from the chloral.

No. 150. The only patient with an inguinal hernia was a primipara twenty-three years old. The hernia caused more than the usual annoyance during pregnancy; but aside from being a little tender did not make labor any more difficult.

No. 201. One patient had chronic appendicitis with a tumor about the size of a butternut, easily felt through the thin abdominal wall. During the last months of two pregnancies much pain was caused by pressure of the fetus on the tumor. The tumor was formed by a thickened appendix and a mass of omentum in close adhesion. About a year after the removal of the tumor another child was born. There were no apparent results of the operation, only the disappearance of tenderness during pregnancy and labor.

No. 174. A well-to-do primipara of thirty-four years had been married fourteen years. She had a light case of chronic appendicitis which caused some pain, but her pregnancy and labor were normal. She had badly fissured nipples. While using silver nitrate on the fissures the baby developed what I thought was gastritis. We had a trained nurse of many years' experience. I had told her to soak away every trace of the silver with alcohol and boric acid and boiled water before putting the baby to the breast. Several days in succession she assured me that she cleansed the nipples every time. The mother

finally told me that the nurse was lying about the washing, and that her nipples were washed in clean water once a day but that the baby had to nurse the black scabs every time. Baby improved slowly after the silver was discontinued and a shield used.

No. 204. A thirty-one year old four-para had been in labor twelve hours. The membranes broke at the first pain. She was very nervous and claimed she would die because the baby was wrongly placed. A transverse position was easily changed to breech by internal method, and delivery was easily accomplished.

No. 214. A six-para aged thirty-one had foot presentation and easy labor.

No. 218. This was a primipara of twenty-six years. There was some delay in extracting the head of this child whose breech had presented. I had to resort to artificial respiration for several minutes.

No. 263. After seven hours' labor this seventeen year old primipara gave birth to a ten pound boy. It was a breech presentation and no trouble was met.

No. 274. Dec. 23, 1910, I attended a thirty-eight year old ten-para. This was another breech case, also uneventful. The child was an eight pound girl.

No. 276. Dec. 27, 1910, I was called to attend a four-para, thirty-one years old. She had a seven pound girl. The breech presented, and we had no difficulty.

We are looking for about one breech case in fifty, I thought that three in fourteen was too many.

No. 114. A two-para, forty years old, had a severe attack of measles at seven months. We kept temperature down to 101° by sponge baths. She had some codeine to try to relieve cough, also a little acetanelid for her headache. There were no bad results. She went to full term, and gave birth to a baby girl. I used forceps in low operation.

No. 223. This was a large, stout young woman, who had much confidence in me. It was her first confinement. She became discouraged and did not try very hard to aid nature in its expulsive efforts. The head rested on perineum. I enlarged somewhat on the dangers of a forceps operation; told her that if she could not work more herself, I would have to give enough chloroform to put her sound asleep, then use instruments. I assured her that she could finish the labor herself if she tried hard. She was given a cup of hot coffee, while I prepared for the operation. The pains came harder and longer, and she worked as hard as I ever saw a woman. The child was born in a short time. Perhaps the coffee aided a little, but it was an instance of what suggestion can do in some conditions.

No. 227. In my first paper I reported a woman who had very small children. Her last baby weighed three pounds. Four of them weighed three, three, four, and three pounds; yet with one exception were in excellent condition at birth and all developed quickly and were soon as large as other children of their ages.

There have been three cases of puerperal infection in the last two hundred labors. If we call every case where the temperature reaches 100.4 or over, one of infection, I may have had more than the three. A large majority of my patients are visited only once after confinement, so unless there is a competent nurse no temperature record is kept.

A two-para, aged twenty-five, lived in the home of a dealer in furs, pelts, rags and junk. Much of the sorting was done in the house. We tried to be clean, but on the eighth day the mother had a chill. I was sent for and found a pulse of 110 and temperature of 102 in the forenoon. There was a foul smelling discharge from the uterus; also pain and tenderness in pelvis and lower abdomen. I curetted the uterus and washed it out with creolin solution, then with a large quantity of normal salt solution. The temperature remained nearly normal until the next afternoon when it reached 101. The uterus was again washed out with creolin and salt solution. No more trouble was had in this case.

No. 200. A primipara twenty-six years old, living in a clean, well furnished home, had a good nurse, yet on the ninth day had a well marked case of infection. Retained pieces of the placenta and decomposing blood clots were removed by curettement. The uterus was washed out with creolin and sterile water once per day for five days. Recovery was good.

No. 198 was a primipara of twenty-eight years. After twenty-four hours of labor an eleven pound boy was delivered by forceps, under complete anesthesia. The perineum was torn too but not into the rectum. The tear was repaired by another physician, called in council.

A few days later she had a temperature of 104 and symptoms of severe infection. Uterine

douches were used and recovery complete, only that a few of the perineal stitches did not hold so we did not have perfect union. The mother has been confined twice since, both were easy, normal labors.

No. 154 was a short, stout woman twenty-three years old. This was her first confinement. After she had been in labor twenty hours, during two of which the head had rested on the perineum, I delivered a ten pound girl by forceps. The perineum was badly torn. The wound was repaired at once and recovery was uneventful.

As bad a laceration as either of the two just mentioned was made by the shoulder in a primipara who had been in labor only ten hours. The head caused but a mild tear. I sewed this wound as usual, but in three days the wound was reopened by the passage of a hard piece of fecal matter. About two-thirds of the tear filled by granulation. She has experienced but little inconvenience from her trouble so far. I have been unable to get her to have an operation for repairing her perineum.

No. 260 was an eight-para, aged forty. I was not her physician, but was called in the emergency of fearful flowing. The placenta was over the os which was dilated about the size of a quarter dollar. I separated one edge of the placenta from the uterine wall; but the main placental body, which lay behind the os was left in situ. The vagina was packed with sterile gauze and cotton, quinine and ergot were given. Pains continued and in about ten hours the placenta was in the vagina. The birth of the placenta was followed by a dead fetus of about five and one half months. There was no infection, or other complications.

No. 222 was the case of a ten-para thirty-seven years old. When I arrived labor had been in progress two hours. The os was well dilated and hemorrhage severe. The head presented. Membranes unbroken. I ruptured the membrane, performed internal version and delivered the full term child in about twenty minutes. Mother and child did finely.

No. 275. A primipara of eighteeen years had long hard labor. Forceps were used in low operation. Placenta delivered by Cride's method twenty minutes after birth of child. The patient continued to flow, although the uterus contracted well. This was in the home of the rag dealer mentioned before. I did not like to explore uterus, but the continuous hemorrhage made it necessary. A small piece of placental tissue was removed from the right cornu. Hemorrhage ceased. No infection.

There were two cases of cystocele. One was a three-para of thirty-five years. The prolapsed portion of bladder contained about six ounces of urine and was below pubis before the child's head. The urine was drawn by soft catheter between pains. I then held the prolapsed tissue up with my fingers and the head soon became engaged in pelvis. There was no more trouble.

An Italian four-para had intended to have no doctor, because she had none at her other confinements in Italy. I found a large cystocele presenting at vulva. I could not catheterize her. The tumor was held up as far front as possible. Labor was uneventful. A pint of urine was drawn as soon as birth of child was over. What few of the older Italian women I have attended insist upon maintaining a sitting position; the younger ones will conform to my wishes in regard to position.

No. 240 was an eight-para forty years old. Had gall-stones, which caused much pain. The head and shoulders of ten pound boy were entirely born before the membrane ruptured. Several months later this patient had eighty gall-stones removed.

A two-para, aged thirty-four had been in labor four hours when she gave birth to a two pound boy, while she was walking about the house. One-half hour later a two and one-fourth pound girl was born dead. The third child a two pound boy came an hour later. Hemorrhage was quite severe. The mother thought she was about seven months pregnant and the appearance of the babies would confirm her opinion. The boys lived about two hours each.

My first case of uremia was No. 111, after seven years of practice. While making a professional call in a small village, seven miles away, I was asked to go in the house of a neighbor and leave some headache tablets.

A twenty-three year old primipara had severe headaches for several months. Her face was puffed and ashy gray. Her limbs had been very edematous for weeks. The pulse was rapid and small. She was nearly nine months pregnant. I told her to save the urine for twenty-four hours, then send a sample of it to her physician and have him call at once. As she was an intelligent women and had plenty of means I thought she would take my advice.

Seven days later I was called to see her. Her husband met me at the door with the smiling assurance that she was getting along well, that pains were good but that she had one of her headaches and could not see. I had him send at once for council. The os was about an inch in diameter. She had a convulsion before I had been in the house ten minutes. Chloroform was given and a dead boy of ten pounds was delivered in an hour by manual dilatation and forceps. She was given infusion of digitalis and a large dose of calomel, also chloral by rectum. She was to have hot moist pack for twenty minutes each four hours. Three hours later she had another convulsion. When I made my second call, eighteen hours from my first, I found the patient in deep coma. She had been visited by an all-round specialist who was one of the ablest physicians in Vermont. Her convulsions were controlled by "large doses" of morphine given hypodermically. She lived two days, during which she secreted about one pint of urine. The specialist made another visit soon after my second one, I was not notified of his coming either time. At my next visit I felt that it was not for the patient's interest to continue in attendance. She died before the specialist came again.

No. 153 was a two-para aged thirty-seven years. At thirteen years of age she had acute nephritis complicating measles. Since that time had suffered from "cystitis" whenever she had grippe or even common colds. During first pregnancy she had mild symptoms of uremia. Urine scanty and of 1012 to 1015 specific gravity. There was a trace of albumin, and a few casts. Her appetite was not good. She was a trained nurse and carried out my directions in regard to diet and exercise very intelligently. The first confinement was uneventful. The second pregnancy was a little more threatening than the first but no alarming condition developed.

Two years later she became pregnant a third time. During this pregnancy the specific gravity of the urine frequently fell to 1006 to 1010, and all her symptoms were more severe than formerly.

Her third confinement was a normal labor. When I visited her the third day I felt that she would get along well. She had a very intelligent trained nurse. Five days after confinement the nurse telephoned me that the patient had a bad headache. The urine had a specific gravity of 1008, numerous casts and large amount of albumin. There was intense headache, severe epigastric pain, and blindness. The pulse was 150 and the blood pressure above 200 with the "Riri Rocci," 12 centimeter cuff. She was placed in a hot moist pack for one-half hour, nitroglycerine, and infusion of juniper berries were given. She was put on a milk diet, and chloral was given by rectum. She had no convulsion, but for three weeks she had a condition, each three or four days similar to what I have just described. One interesting feature of this case was that when the blood pressure reached about 170 the headaches commenced; at about 200 or 210 the patient would become nearly blind. After using the hot moist pack, the blood pressure would drop to 130 or 140. As she was occasionally given salts or castor oil at the same time as the pack, I suppose the purgative aided somewhat in relieving the symptoms. This patient made a good recovery. Dr. E. M. Crane saw this patient with me, eleven days after confinement. Two days later Dr. M. F. McGuire was there with me. The baby had an acute nephritis when five weeks old. It became very edematous, and passed only a small amount of urine. The baby recovered nicely. Dr. McGuire came up again when the baby was sick.

The family were not satisfied with my conduct of this case and I have had no chance to ascertain condition of the kidneys of mother or child since then.

Another trained nurse, primipara of twenty-nine years had mild chronic nephritis during first pregnancy. Moderately severe symptoms of uremia were present after labor. At eight and a half months the most marked from the patient's standpoint were the severe epigastric pains. Labor was normal and less than an hour in duration. Dr. Carver of Marshfield tended the mother for me after the second day. Recovery was good. In the rush caused by the rapid birth of the child there were no precautions taken to keep the baby from infection. I was busy with the mother, so told the hired woman to put baby in a clean blanket or turkish towel. She wrapped him in a shawl. When thirty-six hours old baby developed behind one ear what became a severe attack of erysipelas. For a week the face had very little appearance of a human infant. The house was large and we had plenty of help. The nurse and I cared for baby in one suite of rooms in which no one was allowed who went near the mother or handled anything that went to the mother's room. The hired woman had large areas

of scaly eczema and had suffered from three severe attacks of erysipelas in a few years. Baby recovered nicely.

During her second pregnancy this woman had more severe nephritic symptoms. I believe that she was much benefitted by thyroid tablets, five grains one to three times per day. Her second labor was normal, of thirty minutes duration and was followed by no marked uremic symptoms. Present condition that of mild chronic nephritis.

Case No. *227* was a four-para of twenty-six years. I saw her for the first time when she was about seven and one-half months pregnant. I did not care for another tragedy of errors like No. 111. She was pale, ashy gray, very edematous and short of breath. She had severe headache and almost complete suppression of urine. Do not know the specific gravity but it boiled to be like a custard. The blood pressure was two hundred. A trained nurse was secured. Labor was induced and a two and one-half pound girl was born in six hours. There were no convulsions. Mother and baby made good recovery. The baby was not dressed, but kept rolled in cotton for several weeks. Present condition of mother, mild chronic nephritis.

My next uremic patient was a primipara twenty-one years old. She appeared in good health and the urine showed no trouble until five days before confinement when she said she had to sit up in bed to breathe. Labor was of five hours' duration. Albuminuria and other symptoms of uremia present. No convulsions. For two weeks her uremic symptoms would become alarming if active treatment was not kept up. She made a good recovery. She is now pregnant a second time and up to six months shows no marked signs of trouble.

A four-para aged thirty had been chlorotic since thirteen years old. Ate cloves, cardamon seeds, tea, chalk and similar things. She was pale, thin and of a yellowish color. Urine was of light specific gravity, but no albumin or casts till after labor. I arrived a few minutes before labor. She had severe uremic symptoms but no headache. She had a convulsion just after birth of the child. She flowed badly for a few minutes after the placenta came. She recovered without more convulsions, and is now in her usual condition.

There were four cases of abscess of breast in the three hundred cases. Forceps were used seventeen times. Four of the seventeen were badly lacerated.

There were six cases of uremia with one death. Four cases of puerperal infection with no deaths.

There were four cases of placenta previa.

Four instances of severe postpartum hemorrhage.

Maternal mortality one-third of one per cent.

Infant mortality two per cent. (This does not include premature births or monstrosities).

A physician doing obstetric work in a small town must be ready for all emergencies, for most of his work must be done without nurse or council.

When I know I am to attend a woman in confinement, I examine urine for albumin about once in two months. If any abnormal condition of kidneys exists, I make careful chemical and microscopical examination each two weeks.

I urge the patients to do their usual housework throughout most of their pregnancy.

They should regulate diet, exercise and habits so as to have a movement from the bowels every day. Give medicine for this purpose if necessary.

During the last week of pregnancy she should keep herself washed, with some antiseptic solution, from navel to sacrum.

Have all linen for bed and baby perfectly clean.

I scrub my hands with soapsuds, keep the nails clean and, in most cases, rinse hands in corrosive sublimate solution 1-1000 before each examination. If have been engaged in septic work of any kind for twenty-four hours I use rubber gloves.

Make enough examination to keep informed of progress of labor but no more.

I prefer to have patient in lateral position because I believe the perineum can best be guarded in that way.

Use no ergot till uterus is empty, then only if more hemorrhage than normal.

If hands have been in uterus far any purpose, wash it out with a quart or more of boiled water. I now use no vaginal douche unless there be a fetid discharge. Then use creolin or salt solution. Have attendant wash hands in antiseptic solution every time she changes the patient's napkins.

Use forceps in high operation when normal labor seems improbable. Use them in low opera-

tion when progress is arrested, if I think it will shorten labor and do less harm to mother or child than to wait.

If placenta has not been delivered in fifteen or twenty minutes try Crede's method.

For about thirty minutes keep watch of uterus to see that it remains contracted.

In infected blood clots or retained portion of placenta, clean uterus with finger or curette. Wash with creolin 1-120 or cor. sub. 1-2000, then with large quantity of salt solution or boiled water.

In uremic cases try every reasonable way to have skin and bowels do work left undone by kidneys. Try to get kidneys to do their work. I commence with calomel gr. 5 to 10, followed in an hour by salts or castor oil. Make use of freshly prepared infusion of juniper berries. Hot wet packs have served me well. Give chloroform during convulsions, and chloral by rectum in the intervals.

Mend perineum at once. Leave cervix for the surgeon, or do it myself later.

In nearly all cases I use an anesthetic during last of labor. I prefer chloroform.

THE X-RAY IN MEDICINE AND SURGERY.*

BY

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It is now a little over fifteen years ago that the X-ray was discovered by Prof. Roentgen, and when this great discovery was given to the world it was received with unbounded enthusiasm and wonderful tales were told of the new force and its possibilities.

The expectations of the medical profession and also of the public were raised to the highest plane, but this was soon followed by an epoch of disappointment and even condemnation, and why? Unfamiliarity with the characteristics and actions of the X-ray at this time in its early history, was the cause of many accidents and disappointing results from its employment. Accidents which occurred during this time in the form of severe burns which resulted in disfigurement, loss of limb, and in some cases loss of life, discouraged many early operators and caused a feeling of doubt and suspicion as to the expediency of its employment among both the profession and the laity, which many still have today.

Idiosyncrasy was given a very prominent place which however later investigation has shown to exist only in a very moderate degree, (if it does exist at all), the burns having been oftener produced from overlong or too frequent exposures in the hands of those who were as yet unfamiliar with its actions. Surgeons began to doubt its value in localizing foreign bodies as they had often failed to find the object in the spot indicated on the radiograph, and why was this? Up to this time it had not been appreciated that the relative position of an object or body with reference to the anticathode of the tube and the photographic or sensitized plate did produce a deceptive location of the shadow of the image upon the plate. The causes of this distortion however, have since become better understood and with our modern apparatus of today and more cautious methods, localization has become more accurate.

Do we hear or read today of so many of the so-called X-ray burns and accidents? Why is this? Because today we have a greater knowledge, a better understanding of the wonderful properties, characteristics, and actions of the Roentgen ray, and this with proper technical instruction in its different applications I will say that there is little or no danger to either the operator or his patient. We know its power, we know its dose, we know how much and how little to give, the same as we know how much digitalis, strychnine or any other powerful medicine to give. Indeed the proofs of the great usefulness of the Roentgen ray in surgery and in medicine are now overwhelming. Let us see. The recognition of foreign bodies in the remotest corner of the living organism has become a matter of ease. Fractures and dislocations are shown as they really are in life. Accuracy takes the place of doubt, and painful manipulations cease to be necessary for diagnostic purposes. Even the most skillful experts in fractures are unable to deny that there is a large number of bone injuries, the character of which could formerly not be recognized on account of the swelling of the area involved or of the obscurity of the symptoms.

*Prepared for and read before Washington County Medical Society.

The number of cases of fracture formerly mistaken for contusion or distortion was enormous. It is in such cases that a simple glance with the fluoroscope furnishes the most precise evidence, or better still if a radiograph is taken the nature of the injury can be studied at leisure, and the proper line of treatment easily decided upon without subjecting the patient to any tentative and painful manipulation. Whether there is impaction, or the intervention of muscular tissue, or intra-articular fracture, or fracture associated with a dislocation it can be at once determined.

After a dressing is applied the radiograph shows whether the fragments are in proper position, the dressing itself even if consisting of plaster of paris offering no obstacle to the rays —perhaps it is needless to call attention to the frequent importance of a radiographic proof in court for the protection of the surgeon, it is evidence that speaks for itself.

A famous surgeon in speaking of the Roentgen ray not long ago said: It is not an agreeable feature of the rays that they have told us how often we have erred in the true recognition and treatment of the various fracture types. In diseases of the bones and joints X-ray examinations and radiography are of great service. Differentiation between bony from other tumors, between inflammatory, tuberculous or osteomyelitic processes, and osteoma, osteosarcoma, atrophy of bone and all joint structures have been clearly established. Now in internal medicine the Roentgen rays are becoming more and more appreciated to their full value. If it is only realized that many of the diseases of the thoracic organs can be recognized and studied by a radiograph, as for instance, pleurisy, pyothorax, pneumothorax, lung abscess, tuberculous cavities and emphysema, the immense importance of the radiograph for internal medicine becomes at once apparent.

The relations of the heart and of the aorta, aneurysms, mediastinal tumors and arteriosclerosis can be thoroughly studied. Urinary calculi (stone in the kidney or bladder) may very often be shown in a radiograph. If they do not show in a good picture it is not positive proof that they are absent, for some of them, consisting of friable pure uric acid, have such slight density that they make no contrast with the tissues. The denser varieties, even if quite small, show well in any picture where the vertebrae and other parts are shown in detail. This is one of the most difficult radiographs to take, and to obtain such a picture requires the most perfect technic and first class apparatus. The size and shape of the stomach may be determined by making a radiograph with an emulsion of bismuth, or of black iron oxide in the stomach. This can be introduced into the stomach and subsequently withdrawn through a tube, and is quite harmless even if swallowed in the ordinary way. I was reading an article a short time ago of rather a peculiar use that the X-ray had been put to, and that is, that it has been used to locate stolen property swallowed by criminals. This is said to have been done at the diamond mines and also in the mint in Japan, and the article also said that a stolen ring had been located in this way in the stomach of a prisoner, in the prison at Davenport, Iowa.

One of the most interesting and important applications of the Roentgen ray is in dentistry. The greater density of the teeth makes them show very well in contrast with the less dense substance of the bones of the jaw. The conditions studied are: the existence and position of unerupted teeth, the extent to which softening and decay have taken place in a tooth; to find the position of roots before regulating, or for bridge work, to recognize pulpless teeth, to determine the presence, cause and extent of alveolar abscess, to discover the extent of alveolar absorption in chronic loosening of the teeth, to detect fracture of roots caused by falls or blows, to find whether a root canal has been filled, to find fluid in the antrum and the detection of unerupted teeth that are causing neuralgia.

A radiograph gives the dental surgeon information in regard to these conditions not easily obtained in any other way.

We now come to the study of the X-rays in medicine, for besides their diagnostic properties they exert undeniable therapeutic effects. Probably no subject in recent years has taken stronger hold upon the medical mind than the prospects of the Roentgen ray in the treatment of diseases of many types which have heretofore resisted all measures. It is in diseases of the skin that the Roentgen ray exerts its most beneficial influence, because its therapeutic action is confined mostly to the place of greatest interception which is of course the skin, and I think that most authorities agree that X-ray therapy

should be confined mostly to superficial lesions and diseases of the skin, and under this heading are—acne, chronic eczema, psoriasis, rodent ulcer, sycosis, lupus and epithelioma—I might add some other diseases but these seem to illustrate the classification. Would you believe it when I say that nearly all of these diseases can be cured with the X-ray alone, no other therapeutic measure being required, but such is indeed the fact. In carcinoma, (cancer of the breast) very successful results are obtained in the first stages of the diseases; after the first stages of breast cancer amputation is undoubtedly the proper remedy. The operation should always be followed however, by X-ray treatment. The importance of post-operative raying to prevent recurrence in the line of the incision is now too well known to require discussion. What has been said of carcinoma applies also to sarcoma—probably the employment of the rays in the treatment of these two evils associated with surgery, offers one of the greatest triumphs of the new method. In the treatment of these malignant diseases which had generally defied the surgeon's knife unaided until the discovery of the wonderful properties of the Roentgen ray, the rays affords assistance which will add to instead of take from the glories of surgery. In cancer of the stomach, bowels, liver, uterus or any other deep organ the X-rays relieve pain and have an alterant effect, thus prolonging life. I have never known of or seen a case cured, and doubt very much whether the reported cured cases of this kind could stand critical analysis.

There is no doubt however, that the rays do have a beneficial effect in the way mentioned above even in cases where an operation is deemed impossible. Of course, I do not claim to be an authority, nor do I wish to pose before you as an expert in this branch of medical science, but I will say that I have spent a great deal of time in careful study and research work and have also had considerable experience during the last few years in this line of work. These remarks therefore are based mostly upon my own experience, and cases that have come under my own observation, including also work that I have seen done by experts in this line in New York City and elsewhere.

The Roentgen ray is a wonderful force and has great power both for good and for evil. In the hands of one who does not know or realize its wonderful power, its characteristics, its eccentricities a great deal of harm can be and has been done. On the other hand, to one who knows it and understands its character and actions, it has proven itself one of the greatest blessings known to medical science and to suffering humanity today. Many of you know that when the microscope was invented great authorities used to speak of it with unutterable contempt, and others even denounced anesthesia as an unscriptural procedure, but what would surgery be today without anesthesia? Of course the microscope alone does not make the diagnosis, but without it the diagnosis is not perfect. It is just the same with the Roentgen Ray. There are still many questions perhaps calling for more careful study of its scientific application both in medicine and surgery. The subject is a progressive one, and one that will bear your most earnest consideration.

Iodine in Surgery.

The following precautions are to be observed in the use of iodine as an antiseptic:—

1. Always secure as dry a condition as possible of the skin, bone-cavities, and all other cavities exposed to the air. This is especially important in emergency work.

2. Always use the tincture in full strength on all mucous membrane where inflammation is due to infection. All such cases should be drained with gauze.

3. Whenever iodine in any strength is used in closed cavities, such as the urinary bladder or uterus, either thoroughly douche with saline solution and hydrogen peroxide or insert a drain—preferably a small gauze drain.

4. Do not use iodine in combination with other drugs. It should always be used alone. If it is desired to dilute the tincture, use water.

5. Do not use a hypertonic salt solution, Wright's solution, or hydrogen peroxide for twelve to twenty-four hours after using iodine.

6. Never use the full strength in the vagina or rectum.

7. In all indolent wounds or ulcers, apply a bandage as nearly air-tight as possible for twelve to twenty-four hours after a thorough application of iodine.—F. E. Walker (*Journal of the Minnesota State Med. Association*, Feb. 15, 1911).

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. Tinkham, M. D., B. H. Stone, M. D., } .....*Editors.*

COLLABORATORS.

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S. C. Gordon, M. D., Portland, Me.
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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

Burlington, Vt., October 15, 1911.

EDITORIAL.

The autumn season with the return of a large number of people from the country to their city homes always calls up the subject of the spread of typhoid fever in the country. City sanitarians are attributing a larger and larger percentage of typhoid cases to country infection. The primary reason for this is the method of sewage disposal in vogue in country districts. The country water closet is a fruitful source of the spread of typhoid fever. Taken with the prevalence of the house fly in the fall season and we have all the agents for the spread of this disease from an active or unknown carrier case to the members of neighboring households. Stiles in a recent issue of the Marine Hospital and Public Health Reports has detailed some experiments which show the fallacy of disinfection of privy excretions by the common earth method. He removed some of the fly blown material from one of these privies and buried it in forty-eight inches of sterilized sand, in a carefully screened and sealed stand-pipe. In twenty-seven days eight hundred and sixty-three flies had emerged, showing that the larvae are capable of crawling through a considerable depth of earth. It has been definitely proven that a single fly can carry over six million bacteria. Quoting from Freeman, "When we consider that in most cases, the inhabitants of our rural districts are not subject to milk infection, to food infection, or to any great extent to water infection, the fact that they suffer practically as severely from typhoid fever as the residents of our cities, indicates that other factors, flies, filth and contact, must be unduly active." Sanitarians must devote themselves more and more to the prevention of these diseases in the country. With the growing tendency of the dwellers of the city to spend their summers in the country, this matter becomes increasingly important. The subject is a difficult one to handle and our knowledge of the conditions has outgrown our knowledge of the prevention.

The opening of the public schools and the consequent segregation of the children of a community in a few buildings, has always been the sign of an increase in the amount of communicable disease. That this condition is gradually disappearing, is a matter for congratulation. The improvement is attributable to a number of factors, all based on a more thorough understanding of the methods of spread of these diseases. A marked improvement has been wrought in the last few years in the sanitary condition of the schools throughout the country. Better light, ventilation and more hygienic desks, and larger playgrounds, all bear an important relation to this result, for nothing is more important in preventing the contraction of infectious diseases than the normal physical condition of the individual exposed to infection. But farther than this, the increased knowledge and consequent watchfulness of the teachers is of great value, and in this state, without a general systematic medical in-

spection, is of prime importance. The early detection of a suspicious case may mean the prevention of an epidemic, but this does not go far enough. There is much need for uniform medical school inspection. The teacher can not be expected to detect many of the conditions which the inspector would readily discern. The day is surely coming when the medical inspection of schools will be an important part of our public health service. The American school should be the training ground of healthy, wholesome citizenship and the American mother should feel that her child is as safe, if not safer, from the danger of disease, in the public school as at home.

NEWS ITEMS.

Dr. Leon J. LaCasse, Manchester, N. H., has been sued by a former patient for $10,000 damages on a charge of malpractice. The trial will come off in December. Dr. LaCasse says the patient had been treated for a sore on his leg by a doctor before he was called and by another doctor after he was discharged, but he, LaCasse, was the only one of the three who owned real estate.

The Supreme Court of California has decided that the state has power to make it unlawful for any person to have in his possession "Any cocain, morphin, opium, etc., or any preparation thereof, containing more than two grains to the fluid ounce." etc. In its decision, the California court cites the Supreme Court of Oregon upholding a similar decision and also maintains the act of Congress approved Feb. 9, 1909, which prohibits "The importation and use of opium for any other than medicinal purposes, and makes the mere possession of this drug, sufficient evidence of the violation of the act unless satisfactorily explained to the jury." The courts in their opinions state that the vice of using opium is growing and that its indiscriminate use "would have a very deleterious and depraving effect upon our race" and that, the habit "once formed, the desire for it is insatiable."

Dr. John D. Hanrahan of Rutland has been notified of his election as surgeon-general of the Grand Army of the Republic by the national encampment at Rochester, N. Y.

Dr. Charles Bernstein, Superintendent of the State Custodial Asylum at Rome, N. Y., has been sued by the mother of a patient for $10,000 for an alleged unlawful autopsy and alleged wilful mutilation of the body of her son who died in the institution. Her son was, the mother claims, paralytic and not an imbecile and that Drs. Hubbard and Montgomery of the asylum who also are defendants in the suit, had immediately determined the cause of death, and the mother claims there was no necessity for an autopsy. The case will be tried in the Supreme Court at Rome.

Dr. George D. Towne of Manchester, N. H., died suddenly at his summer home in Dunbarton, September 11th. He was born in 1854 and graduated from the University of New York in 1878.

A short time ago Dr. Walter L. Havens, Chester Depot, narrowly escaped serious injury or death because of the giving away of the steering gear of his motor car. The car climbed a sidewalk embankment and stopped suspended on its side just ready to turn over onto him and his friend who had been violently thrown to the roading. The forward wheels and springs were broken and torn from the car and left behind when the car went up the bank. The accident shows how necessary it is to inspect carefully the steering gear.

Dr. H. W. Newell, formerly of Derry, more recently of Manchester, N. H., has given up practice for the present, and is now treasurer of one of the Porcupine Mining Companies in Ontario.

Dr. Almon W. Hill of Concord, N. H., died September 17th in a Boston hospital. He had been operated on for a pelvic abscess. He was 47 years of age.

Dr. S. Dana Hubbard of the New York City Board of Health told the New York Library Association at their recent meeting that greater precaution should be taken against the dissemination of infectious diseases through books. He said "A young man just recovering from smallpox was a passenger on a steamship during one of its recent crossings. When his condition was

discovered the whole ship's library was disinfected for he had read or handled quite a large number of the books." The doctor said "All books of a library should be subjected to a disinfecting process at frequent intervals."

Dr. N. H. Towle, Dartmouth 1909, has located in Manchester, N. H.

Dr. Thomas F. Cotton who was recently associated with Dr. John H. Gleeson of Manchester, N. H., has returned to Montreal to take up research work at McGill University.

Through its army and navy items the *New York Tribune* of September 29 announces the appointment of Dr. Sidney M. Bunker of this city as first lieutenant, medical reserve corps of the United States army, with orders to report at the army medical school, Washington, D. C., October 2. Dr. Bunker, who is a Burlington boy, has made good in his profession, and will carry with him to his new field of labor the congratulations and best wishes of his many friends.

The semi-annual meeting of the Franklin County Medical Society was held in Eagles' Hall, Sept. 24. and was attended by about 25 members. A business session was held in the morning, presided over by Dr. J. R. Patton of Fairfield, president. After dinner at the American House the afternoon program included the following papers, the general subject of the meeting being "Diseases of the Bile Passages and Gall-Bladder, including Cholelithiasis"; "The Anatomy," Dr. John Gibson; "The Physiology," Dr. Seth H. Martin of Georgia; "The Classification, Etiology, etc.," Dr. H. H. Johnson of Franklin; "The Medical Treatment," Dr. A. L. Cross of Swanton; "The Surgical Treatment," Dr. Alan Davidson.

The *Chicago Tribune* announces the establishment of a Department of Public Health under the editorial direction of Dr. W. A. Evans, Professor of Hygiene at Northwestern University and former Health Commissioner of Chicago.

NEW YORK AND NEW ENGLAND ASSOCIATION OF RAILWAY SURGEONS.

The twenty-first annual session of the New York and New England Association of Railway Surgeons will be held at the Hotel Astor, New York City, on Thursday, November the 16th, 1911. A very interesting and attractive program has been arranged. Railway surgeons, attorneys and officials and all members of the medical profession are cordially invited to attend.

Dr. F. A. Goodwin, President, Binghamton, N. Y.

Dr. George Chaffee, Corresponding Secretary, 338 47th Street, Brooklyn, N. Y.

THE NINETY-EIGHTH ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY WAS HELD IN THE MEDICAL COLLEGE BUILDING, BURLINGTON, VERMONT, OCTOBER 12-13, 1911.

OFFICERS.

President .....H. C. Tinkham, Burlington
Vice-President .....S. W. Paige, St. Albans
Secretary .....C. H. Beecher, Burlington
Treasurer .....B. H. Stone, Burlington
Auditor .....A. M. Norton, Bristol

COMMITTEES.

Executive.

H. C. Tinkham, C. K. Johnson, C. H. Beecher.

Publication.

C. H. Beecher, David Marvin, F. E. Farmer.

Legislation.

W. N. Bryant, S. E. Darling, C. S. Scofield.

Necrology.

E. H. Martin, E. H. Ross, L. C. Holcombe.

Medical Education.

W. N. Bryant, term expires 1911,
H. H. Swift, term expires 1912,
W. L. Havens, term expires 1913.

Anniversary Chairman.

S. W. Hammond, Rutland.

Local Committee of Arrangments.

F. E. Clark, C. A. Pease, T. S. Brown.

Ladies Reception Committee.

Dr. Sue Hertz Howard, Mrs. A. S. C. Hill,
Mrs. P. E. McSweeney, Mrs. J. H. Dodds,
Miss Mary Wheeler.

Officers of House of Delegates for 1911 Meeting.

President .....J. P. Gifford
1st Vice-President .....W. W. Townsend
2nd Vice-President .....F. T. Gartland
Secretary .....Lyman Allen

PROGRAM.

THURSDAY FORENOON, 11 O'CLOCK.

1. Called to order by the President, H. C. Tinkham.
2. Prayer, Chaplain, Rev. E. G. Guthrie.
3. Address of Welcome, Hon. Robert Roberts.
4. Reading of Records by Secretary.
5. Report of Committee of Arrangements.
6. Reports of Officers, Committees and Delegates.
   - (a) Secretary .....C. H. Beecher
   - (b) Treasurer .....B. H. Stone
   - (c) Auditor .....A. M. Norton
   - (d) Executive Committee ....H. C. Tinkham
   - (e) Publication Committee ....C. H. Beecher
   - (f) Legislation Committee.....W. N. Bryant
   - (g) Medical Education Committee, W. N. Bryant
   - (h) Necrology Committee.....E. H. Martin
   - (i) Medigo-Legal Committee.....J. N. Jenne
   - (j) Delegates to other Societies.
7. Introduction of Delegates from other Societies.

THURSDAY AFTERNOON, 2 O'CLOCK.

1. The Vice-Presient's Annual Address:
   "Neuralgia," S. W. Paige, St. Albans.

Outline:—Etiology, Pathology, Symptoms, Diagnosis, Prognosis, Treatment. Report of Cases.

Discussion:—Wm. Lindsay, Montpelier, G. I. Bidwell, Waterbury.

2. Address:
   "Radiculitis," A. H. Bellerose, Rutland.

Abstract:—It is an inflammatory process, toxic or infectious, of the radiculi of the spinal nerves: Anatomo-physiology of the radiculi; Pathological factors in inflammatory condition of the radiculi; Symptoms are the same as in peripheric neuritis, but with special distribution, coughing and sneezing two great factors in the diagnosis of radiculitis; Forms; Lumbo-sacral, cervical and diffuse: Differential diagnosis between peripheric neuritis (sciatica, etc.), syringomyelia, hematomyelia, tumors, etc.: Treatment according to the cause.

Discussion:—W. H. Lane, Brattleboro, Arthur H. Morton, St. Albans.

3. Address:
   "The Occupation Diseases of Modern Life,"
   W. Gilman Thompson, New York City.

Discussion:—C. H. Beecher, Burlington W. G. Ricker, St. Johnsbury.

4. Address:
   "Spinal Anesthesia," J. M. Allen, St. Johnsbury.

Outline:—History of method in brief. Discussion of advantages and disadvantages with report of cases; technique.

Discussion:—F. E. Farmer, St. Johnsbury, W. B. Fitch, St. Johnsbury.

5. Address:
   "Acute Poliomyelitis,"
   M. B. Hodskins, Palmer, Mass.

Outline:—History, Experimental Production, Nature of the Infection, Frequency of Occurrence. Is there a similar disease in Animals? Methods of Transmission, Pathology, Classification of Types of the Disease. Symptoms, Diagnosis, Treatment.

Discussion:—C. S. Caverly, Rutland, F. W. Sears, Burlington.

Regular meeting of House of Delegates at 5 o'clock in Lecture Hall B, Medical College.

THURSDAY EVENING, 8 O'CLOCK.

The annual banquet will be served at Hotel Vermont, promptly at 8 P. M. The ladies are especially invited.

S. W. Hammond, Anniversary Chairman.

There will be an informal dance on the Roof Garden after the banquet, to which all members, guests and ladies are invited.

FRIDAY MORNING, 9 O'CLOCK.

1. Report of Secretary of House of Delegates.

2. Address:
   "Treatment of Injuries of Abdomen,"
   E. J. Melville, St. Albans.

Outline:—Varieties of Injuries; Early Diagnosis Necessary; Pain not Constant Symptom; Symptoms, General and Specific; Necessity of Prompt Action; Treatment: Advantage of Exploratory Incision; Danger in Transporting Patient; Preparation for Home Operation; Importance of Good Anesthetist; Method of Procedure. Mortality. Case Histories.

Discussion:—L. L. Leonard, Barre, Lyman Allen, Burlington.

3. Address:
   "A Study of Three Hundred and Fifty Cases of Pulmonary Tuberculosis at the Vermont Sanatorium,"
   W. C. Klotz, Supt., Pittsford.

Abstract:—The relation of age, sex, occupation, race and heredity to the production of pulmonary tuberculosis. Tracing the sources of infection; noting the start of onset and the duration of illness and the extent of lesion at the time of admission. Analyzing occurrence of certain physical conditions and the presence of certain symptoms. Giving the summary of conditions on admission and on discharge and the subsequent history of these three hundred and fifty cases. Conclusions that can be drawn from the study as to prognosis.

Discussion:—W. N. Bryant, Ludlow, L. H. Ross, Bennington.

4. Address:
   "Diagnosis of Renal Tuberculosis,"
   W. W. Townsend, Rutland.

Outline:—The paper deals with the common Subjective and Objective Symptoms and considers the bacteriological diagnosis from the clinician's standpoint.

Discussion:—B. H. Stone, Burlington, S. S. Eddy, Middlebury.

5. Address:
   "Bone Transplantation and Osteoplasty in Pott's Disease of the Spine,"
   F. H. Albee, New York City.

Outline:—This paper consisted of a report of cases and a discussion of the merits of Osteoplasty and Bone Transplantation in Pott's Disease and certain deformities of the spine.

Lantern slides of X-rays and photographs of cases, where a portion of the tibia has been transplanted into the spine, was shown. Also a method of permanently correcting deformities of tubercular spines.

Discussion:—Wm. Stickney, Rutland, Alan Davidson, St. Albans.

6. Address:
"Cancer of Rectum," D. C. Hawley, Burlington.

Abstract:—Increasing prevalence of cancer. Death rate from cancer. Frequency of rectal cancer. Results of operation for rectal cancer. Results of early operation for rectal cancer. Absolute necessity of early diagnosis. Operative procedures. Report of cases.

Discussion:—C. W. Bartlett, Bennington, J. S. Hill, Bellows Falls.

Through the courtesy of the Burlington and Chittenden County Clinical Society, the members and guests of the State Society are invited to a buffet luncheon, to be served by M. Dorn, at the Medical College, at 12 m., Friday.

FRIDAY AFTERNOON, 2 O'CLOCK.

1. President's Annual Address:
"What Standard of Efficiency Should be Required of Physicians in Order to Guarantee the Best Medical Service to the Public and How Should that Standard be Determined?"
H. C. Tinkham, Burlington.

Discussion:—W. L. Havens, Chester, S. W. Hammond, Rutland.

2. First Annual Address under the Trust Fund:
"Anoci-Association—A New Principle in Operative Surgery,"
G. W. Crile, Cleveland.

Discussion:—J. B. Wheeler, Burlington, C. E. Chandler, Montpelier.

OBITUARY.

Dr. Daniel F. Cooledge, Ludlow, Vermont, died Sept. 17th after an illness lasting two years. He was born in Plymouth, 1839, and had lived in Ludlow for 40 years. He served in the Civil War and was discharged because of wounds.

Dr. W. A. Goodale of Montpelier, Vermont, died Sept. 17th at Heaton Hospital after a sickness lasting about seven weeks following a shock. He was born in Topsham 44 years ago and graduated from the University of Vermont in 1888.

Dr. Moses C. Lathrop, Dover, N. H., died Sept. 29th. He had practiced in Dover forty-five years and was a Civil War surgeon. He was born in Holland, Conn., in 1830.

BOOK REVIEWS.

A Manual of Clinical Diagnosis by Means of Laboratory Methods. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, M. D., Professor of Clinical Pathology and Experimental Medicine in the College of Physicians and Surgeons, Baltimore. Seventh edition, enlarged and thoroughly revised. Octavo, 780 pages, with 168 engravings and 25 plates. Cloth, $5.00 *net*. Lea & Febiger, Philadelphia and New York, 1911.

The seventh revision of this standard work has more than doubled its actual value. A new section has been added to the original book consisting of a description of the laboratory methods available in the diagnosis of each disease arranged under its name in alphabetical order. Thus one has only to turn to the disease to find every method of laboratory diagnosis applicable. It seems to your reviewer the only logical way of making laboratory examinations quickly available to the clinician.

Golden Rules of Diagnosis and Treatment of Disease.—By Henry A. Cables, B. S., M. D., Prof. of Medicine and Clinical Medicine in the College of Physicians and Surgeons, St. Louis. C. V. Mosley Company, St. Louis. Price, $2.50.

This is a book of ready reference of diagnosis and treatment. It presents the subject boiled down and arranged in such a way as to be easily available for use. It makes no pretense of taking the place of more extensive discussions of the subject but claims a place for itself.

Manual of the Diseases of the Eye. For Students and General Practitioners. By Chas. H. May, M. D., Chief of Clinic in Ophthalmology, College of Physicians and Surgeons; Medical Department Columbia University, New York, etc. Seventh Revised Edition. With 362 original illustrations, including 22 plates with 62 colored figures. William Wood & Co., New York, 1911.

This manual is a precise, practical and systematic treatment of the diseases of the eye. It omits excessive detail, extensive discussion, and lengthy accounts of newer and rare conditions. The seventh edition has been brought up to date without destroying the original intent of the author to make it a concise book for student and general practitioner. Its many editions are a guarantee of its popularity.

A Manual of Practical Hygiene. For Students, Physicians and Health Officers, by Charles Har-

rington, M. D., late Professor of Hygiene in the Medical School of Harvard University. Fourth edition, revised and enlarged by Mark W. Richardson, M. D., Secretary to State Board of Health of Massachusetts. Octavo, 850 pages, with 124 engravings and 12 full-page plates, in colors and monochrome. Cloth, $4.50 *net*. Lea & Febiger, Philadelphia and New York, 1911.

In having at hand the new edition of Harrington's Practical Hygiene the practitioner or student is equipped with a thoroughly up-to-date work on preventive medicine. The etiology of infectious diseases is given with a clearness that is seldom equalled in any medical text-book. The thorough and comprehensive manner in which parasitic diseases are handled makes this section of the work especially attractive. Finally after covering so well the usual matter found in a work of hygiene, it presents the latest work on infection susceptibility and immunity. In a word it is almost—in an educational sense—a library on hygiene.

Golden Rules of Pediatrics. By John Zahorsky, A. B., M. D., with an introduction by E. W. Saunders, M. D. Price, $2.50.

In this work the author has gathered what he considers the essentials of pediatrics and expresses these points in the form of aphorisms. These are well grouped under four parts respectively under "Golden Rules of Diagnosis; Golden Rules of Prognosis; Golden Rules of Hygienic and Infant Feeding; and Golden Rules of Treatment." The book contains much valuable matter put in a terse, effective manner.

Diseases of the Stomach. With Special Reference to Treatment. By Charles D. Aaron, Sc. D., M. D., Professor of Gastroenterology and Adjunct Professor of Dietetics in the Detroit College of Medicine; Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine, etc. Octavo, 555 pages, with 42 illustrations and 21 plates. Cloth, $4.75, *net*. Lea & Febiger, Philadelphia and New York, 1911.

The work is intended as a practical guide to the therapeutic measures available in diseases of the stomach and to this end only enough discussion of symptomology, pathology and diagnosis is introduced as is necessary to an understanding of the methods of treatment proposed. It is refreshing to find a work which emphasizes treatment and every practitioner will, we feel sure, welcome Dr. Aaron's addition to the treatment of these always troublesome diseases of the stomach.

A Manual of Pathology and Morbid Anatomy. By T. Henry Green, M. D., F. R. C. P., Consulting Physician to the Charing-Cross Hospital, etc., London. Revised and enlarged by W. Cecil Bosanquet, M. A., M. D., F. R. C. P., Assistant Physician to the Charing-Cross Hospital, etc., London. Large 12mo, 642 pages, with 250 illustrations. Cloth, $4.50, *net*. Lea & Febiger, Publishers, Philadelphia and New York, 1911.

This readable pathology carries its own recommendation in the number of editions required to supply the demand, this being the eleventh. It is essentially a text-book, written and arranged in clear and concise style, not given to verbiage but containing the prominent facts which the student or busy practitioner needs to have ready at hand. This last edition brings the book up to date with the recent additions to pathological knowledge and is well illustrated with text cuts.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

PANISSET, L.: ON THE ABSORPTION OF TOXINS, ETC., ADMINISTERED BY THE RECTUM.

In view of the results published by Calmette, Breton, Petit, and Massol, and of the recent communications by Courmont and Rochaix, as to the possibility of vaccinating against typhoid fever by administration of the bowel, Panisset records the results of investigations which he has made as to the possibility of the absorption of antigens by the mucous membrane of the large intestine And the result of experiments performed on guinea-pigs of about 500 grammes weight do not support the contention that any considerable absorption of such bodies, administered in this way, occurs. The various antigens were introduced into the large intestine through a catheter and after their administration, the guinea-pigs were suspended head downwards for five minutes. The results of various experiments were as follows: The serum of guinea-pigs which had received four injections of ox red corpuscles proved to be free from any specific agglutinin or hemolysin. Experiments with intra-rectal injection of tuberculin did not confirm the statements of Calmette and Breton to the effect that such administration of tuberculin has the same effect as subcutaneous injection. Panisset did not observe any results after the intra-rectal injection of tuberculous guinea-pigs with from five to ten times the dose of precipitated tuberculin which would be sufficient to kill a tuberculous guinea-pig in between five and twelve hours if administered by intramuscular injection. Similarly the results of administration of the tuberculin by the mouth were without effect. Guinea-pigs which received an intra-

rectal dose of tetanus toxin on each of eight successive days did not manifest any signs of tetanus, nor did they show any resistance when tested with the toxin by subcutaneous injection five days after the intra-rectal administration. But Panisset notes that anti-tetanus serum appears to be absorbed from the large intestine more readily than the toxin; since a partial protective effect is produced by the intra-rectal injection of one or two cubic centimeters of concentrated serum, as shown by a delay of the onset of symptoms after the subsequent subcutaneous injection of a test dose of tetanus toxin. Breton and Massol have stated that cobra venom is absorbed by the mucous membrane of the large intestine; but Panisset failed to obtain positive results either with cobra venom or with that of other species. The intra-rectal injection of snake venoms is followed by copious evacuations of the contents of the bowel; but no special symptoms followed the injections when the anus was occluded so that the venom was retained.—*Medical Officer*, August.

KURASHIGE, T.: ON THE OCCURRENCE OF TUBERCLE BACILLI IN THE CIRCULATING BLOOD.

Following the method of investigation described by Schnitter, the author has examined the blood of phthisical patients for B. Tuberculosis. One cubic centimeter of blood was drawn off from the median basilic vein, and mixed with 5 c. cm. of a 3 per cent. dilution of acetic acid. After gentle shaking, the mixture was allowed to stand for between half an hour and an hour. It was then centrifugated for 30 minutes in a machine running at the rate of 3,000 revolutions in the minute. Five cubic centimeters of strong antiformin were then added to the sediment. After gentle shaking, the mixture was allowed to stand. A very small whitish deposit was thrown down; this was washed with distilled water, and films made from it were stained by the Ziehl-Neelsen method. Certain precautions were found necessary in order to carry out this method successfully: (1) the blood must not be allowed to stand in contact with the diluted acetic acid for too long a time; (2) treatment with the antiformin should be as brief as possible; if prolonged, the staining properties of the bacillus and its viability may be impaired. Kurashige examined the blood of altogether 155 cases of pulmonary tuberculosis, both in early and advanced stages; and in every case he believes that he detected tubercle bacilli in the blood. In view of this extraordinary result, the author investigated in similar manner the blood of (?) 20 apparently healthy persons and found tubercle bacilli in 59 per cent. of them. In four of the healthy cases the nature of the organism present was proved by guinea-pig inoculation. Positive results were obtained also on testing the blood of rabbits which had been infected by intravenous inoculation nine months previously. Earlier workers have obtained positive results, viz.: from 30 to 40 per cent. of pulmonary cases of tuberculosis examined, except Rosenberger, who examined 50 cases with positive results in all.—*Medical Officer*, September.

M. NEUSTREDTER and WILLIAM C. THEO (*New York Medical Journal*, September), report experimental work carried out in monkeys with the sweepings of a room in which was a case of anterior-poliomyelitis. The material was macerated in sterile water, filtered through a bacterial filter and injected into the spinal canal. Six days after the injection the animals became ill and developed paralysis. The animal was killed and the cord found to show the lesion of poliomyelitis. Sections of the cord and brain of the monkey were emulsified and injected into another animal. In seven days the animal developed the characteristic symptoms of poliomyelitis. The writers conclude: (1) Acute poliomyelitis is both infectious and contagious; (2) It is propagated by the dust, and (3) The nasopharynx must be the port of entry. It becomes perfectly evident that prophylactic measures should be most rigidly carried out in order to check the spread of this disease.

WALBARST (*New York Medical Journal*, September, 1911) concludes from a study of fifty cases of syphilis treated with Salvarsan with special reference to clinical results and the Wasserman reaction: (1) Of fifty cases studied clinically for periods varying from three to ten months (an average of 6.4 months) after a single injection, twenty-seven (54 per cent.) may be considered clinically cured; ten (20 per cent.) improved materially, and have not yet suffered recurrence; ten (20 per cent.) improved, but developed clinical recurrence later; three (six per cent.) showed no change as a result of the treatment. (2) When clinical recurrence took place it occurred most frequently in the first three months after treatment. Evidently one injection was not sufficient to produce the desired result. One case recurred after seven months and one after eight months. Repetitions of the treatment should be given within one month to insure the best results. (3) The Wasserman reaction remained positive in 33 per cent. of the cases and became negative and remained so in 30 per cent. of the cases for periods averaging four to five months. (4) In the cases considered "cured" the reaction became negative in 41 per cent. and remained positive in 30 per cent. In the cases which improved without recurrence, 40 per cent. became negative and 20 per cent. remained positive; of the cases improved with recurrence 30 per cent. became negative and 50 per cent. remained positive. This showed that the Wasserman reaction is more likely to change from positive to negative in cases which also respond clinically to the influence of the remedy than in cases which do not show this favorable result. (5) The positive reaction is apt to remain uninfluenced in cases in which clinical recurrence takes place. (6) In the primary cases the reaction became negative in 33 per cent. and remained positive in 50 per cent. of the cases; in the secondary cases the reaction became negative in 50 per cent. and remained positive in 36 per cent. of the cases; in the tertiary cases the reaction became negative in 15 per cent. and remained positive in 22; in the parasyphilitis cases the reaction became negative in 50 per cent. and remained positive in 40 per cent. of the cases. (7) The therapeutic effect of a single injection of salvarsan is equivalent in potency to a course of mercury and iodides, in a large proportion of cases. This is particularly true in primary cases and in cases which have not responded previously to vigorous treatment with mercury and iodides. We have in this new remedy the most powerful and trustworthy medium for the conquest of syphilis that has ever been known. It will not entirely supplant mercury and iodides, but it will undoubtedly take its place

as the foremost remedy at our command. We are still in ignorance of the best method of using salvarsan; we do not know the maximum curative dose, nor do we know the best method, nor how often it should be repeated. All of this information will come to us within a reasonable time, and we shall then be better able to judge of its permanent value. Of one thing we may feel certain, namely, that salvarsan has come to stay and that it will certainly play the principal role in the conquest of syphilis.

CANCER OF THE RECTUM.

Abstract of a paper read before the Am. Proctological Society at Los Angeles, by J. Rawson Pennington, M. D., of Chicago, Ill.

I take it we are all agreed as to the increasing frequency of cancer. At least it seems to me no other conclusion can be drawn from the following figures: According to the 12th U. S. census, cancer appears to have increased 12.1 deaths per 100,000 population in the previous decade. In Great Britain, so we learn from the work of Roger Williams, the deaths from cancer increased from 177 per million in 1840 to 885 per million living in 1905. Williams points out that while the population barely doubled from 1850 to 1905, the mortality from cancer increased more than six-fold. Nor is the increase confined to the United States and Europe, it holds good for Japan, India and even for uncivilized countries. In short cancer is one of the several diseases which is apparently increasing, by leaps and bounds, in spite of our boasted progress in medicine, surgery and hygiene. Apart from the increased prevalence, the present death rate from malignant diseases is something dreadful to contemplate. Our anxiety in regard to malignant disease of the rectum is pardonable when we reflect that a good proportion of cancers involve this region. Williams found that 9.6 per cent. in males and 5.3 per cent. in females were located in the rectum. Is there anything that can be done to check this foe? The writer believes there is, and that this Society may be made a powerful factor for good in such a crusade. In Germany a similar crusade has been started against cancer of the uterus by Winters, agitating the subject both among the profession and the laity. It is estimated that the number of cases of inoperable cancer of this organ has been reduced over 30 per cent. as a result of calling attention to the early symptoms. Of the 2,914 cases of rectal cancer in the male referred to by Williams, 2,592 patients were over 45 years of age and 2,180 of the 2,533 female patients. In the male sex again the average age at which the onset was noted was 49.7 years, the minimum being 16.75 and the maximum 74; while in the female sex the average was 50.4 years with a minimum of 21.8 and a maximum of 88 years. This brings me to the crux of my argument, that every person who has reached the so-called "cancerous age" should be examined periodically for evidence of commencing carcinoma not necessarily of the rectum alone but in the female, for example, of the uterus also.

In 120 resections of the rectum for malignant disease W. J. Mayo observes: "It is an unfortunate fact that, in the majority, cancer of the rectum is not recognized in time to obtain a radical cure." I said a moment ago that cancer in the beginning is a local disease. This granted, then early and thorough removal must lead to a cure. It has been shown that a large proportion of malignant growths originate in scar tissue. In cancer of the stomach, for example, the Mayos found that no less than 62 per cent. showed evidences of a previous ulcer. In rectal cancer patients frequently give a history of previous operations on the part. Does the cancer occur in the scar left from an operation for hemorrhoids done by one of the commoner methods—ligature, clamp and cautery, or some other technic leaving much scar tissue and sometimes stricture? May it not be occasionally engrafted on the scar following the usual incision method of operating for fistula? Here is a suggestion for us in our own work, secure smooth healing by resorting only to such procedures as leave the minimum of cicatricial tissue, hence, the least possible nidus for possible mischief in the future. With the co-operation of the public it seems to me we should learn much about cancer in the early stages. To educate the public we must—as has been well said—"organize, systematize, deputize, energize, supervise and economize." The field is broad and the opportunity is at hand. Shall we grasp it?

THE LIMITATIONS OF THE USE AND THE METHODS OF EMPLOYING LOCAL ANESTHESIA IN RECTAL SURGERY.

Abstract of paper read before the meeting of the Am. Proctological Society at Los Angeles, by Lewis H. Adler, Jr., M. D., of Philadelphia, Pa.

The author, quoting from a recent article of a distinguished proctologist, states: "Patients seriously object to a general anesthetic and because of this and the fact that most minor ano-rectal operations can be painlessly performed under local anesthesia induced by sterile water, or a one-eighth of one per cent. eucaine solution, I have discarded general narcosis is about eighty per cent. of my rectal operations."

In taking exception to this general statement he questions the wisdom of sending it broadcast and advocating a method which in the hands of one not particularly skilled in rectal work would in his opinion only lead to disaster.

He calls attention to the waterlogging of the tissues, when sufficient anesthetic be used, whether cocaine, eucaine, sterile water, or other agents and to the subsequent retarding of the recovery of the patient and the danger of hemorrhage from allowing patients to be about on their feet, citing a case which proved conclusively the force of his arguments.

The author claimed a thorough understanding of the underlying conditions can rarely be made without the aid of general anesthesia. The latter when administered by a competent anesthetizer is not attended with any more danger or risk than the indiscriminate employment of local anesthesia.

He calls attention to the fact that it is essential to remove the anesthetic when the sphincter is divulsed, as deep inspiration thus induced would cause too much of the drug to be inhaled suddenly, and might cause alarming or fatal results.

Rectal diseases, which may be treated under local anesthesia, he considers under two divisions: (1) Those admitting of office treatment; (2) those requiring treatment at home or in a hospital.

In the opinion of the author external piles or other excrescences around the anal region, some fissures-in-ano, and abscesses (of not too large an extent), are the only affections coming within the range of operations which can with propriety be performed

in the office under local anesthesia. He warns the operator that trivial fistula often have diverticulae and are not readily discoverable except under general anesthesia.

Under the second heading he speaks of internal colostomy and internal hemorrhoids and warns the operator that the temperament of the patient must always be taken into account. Highly nervous patients will not stand manipulation of the intestines and the abdominal muscles are apt to be rigid.

The author mentions the different drugs used in local anesthesia, the vibratory method of Hirschman, the methods used in getting the parts anesthetized and the after treatment.

The trend of the article is not to throw cold water on the valuable procedure of local anesthesia, but to insist that the cases must be suitable and in the hands of men of experience.

ANGIOKERATOMA OF THE SCROTUM.

After giving a history of the recognition of angiokeratoma and a review of the literature of the subject, R. L. Sutton, Kansas City, Mo. (*Journal A. M. A.*, July 15), reports two typical cases with microscopic examination of the growth in one of them. The findings in this case, he says, are of interest as pointing to a probable explanation of the cause of the disease. While it is generally the opinion of those who have studied the subject that the process is one of capillary dilatation followed by thickening and other hypertrophic changes in the epidermis the antecedent pathologic condition of the vessel wall or adjacent structure has never been determined. Chilblains have usually been an antecedent but they were absent in the cases reported and there will be no suspicion of them as an etiologic factor in the situation where the lesions are observed, so that cause may be rejected. There is also in the majority of cases a history of venal obstruction and in the second of his cases there had been long existing pronounced varicocele. The evidence is almost conclusive that these little vascular tumors of angiokeratoma are simply the result of increased blood-pressure in the superficial venous capillaries, lacking elasticity, as is generally the case in the scrotum. They are nature's attempt to prevent further dilatation.

ROCKY MOUNTAIN SPOTTED FEVER.

In a preliminary note (*Journal A. M. A.*, July 15), P. G. Heinemann and J. J. Moore, Chicago, report experiments made at the request and expense of the counties of Ravalli and Missoula in Montana on the production of a protective serum against Rocky Mountain spotted fever. Ricketts and Gomez had shown in 1908 that the horse is susceptible to the inoculation with spotted fever virus and after recovery its serum had protective properties. A more conclusive demonstration of the value of this protection was sought for, and Heinemann and Moore therefore inoculated two horses with 200 c. c. of spotted fever virus each. Three weeks after the first inoculation horse 1 was given another inoculation of 460 c. c. of virus. Both horses reacted to the first injection and blood was taken on each of five days while the temperature was above normal and each lot inoculated into two guinea-pigs. The blood taken on the fourth day, when the temperature was at its maximum, was infective for guinea-pigs and the identity of the infection with spotted fever was tested. The blood taken on the other four days proved uninfectious. They interpret this as showing that the infectious material is contained in the blood of the horse only on the day of maximum fever. Without giving the results in detail, they found that the serum had no protective value even in as large a dose as 5 c. c. if it was drawn earlier than seven or eight days after the temperature from horse 1 had become normal. Tests with the serum drawn from horse 1 eight days after the temperature had become normal, protected guinea-pigs only if 5 c. c. of serum were injected, with 1 c. c. of virus. Serum from horse 2, drawn ten days after normal temperature had become constant, protected guinea-pigs if 1 c. c. were given. "After horse 1 had received the second injection of virus, there was no temperature reaction, excepting that within two hours after injection there was a temporary rise of 2 degrees, accompanied by profuse perspiration, possibly due to shock or an anaphylactic reaction. The potency of the serum drawn twelve days after inoculation had increased, so that 0.5 c. c. of serum gave complete protection against 1 c. c. of virus. Partial protection was evident in doses as small as 0.125 c. c., the fever appearing on the ninth, tenth or eleventh day. Successful attempts have been made in concentrating the serum of horse 1 after the second injection, and of horse 2 after the first injection. The method of concentration is similar to the one in general use in the concentration of diphtheria antitoxin. The greater part of the antibodies is evidently connected with the pseudoglobulin fraction, as in diphtheria antitoxin. The concentrated serums protected in the following amounts: Serum 1 B, .01 c. c. protected against 1 c. c. virus. Serum 2, .05 c. c. protected against 1 c. c. virus." The experiments will be continued.

SUMMER DIARRHEA.

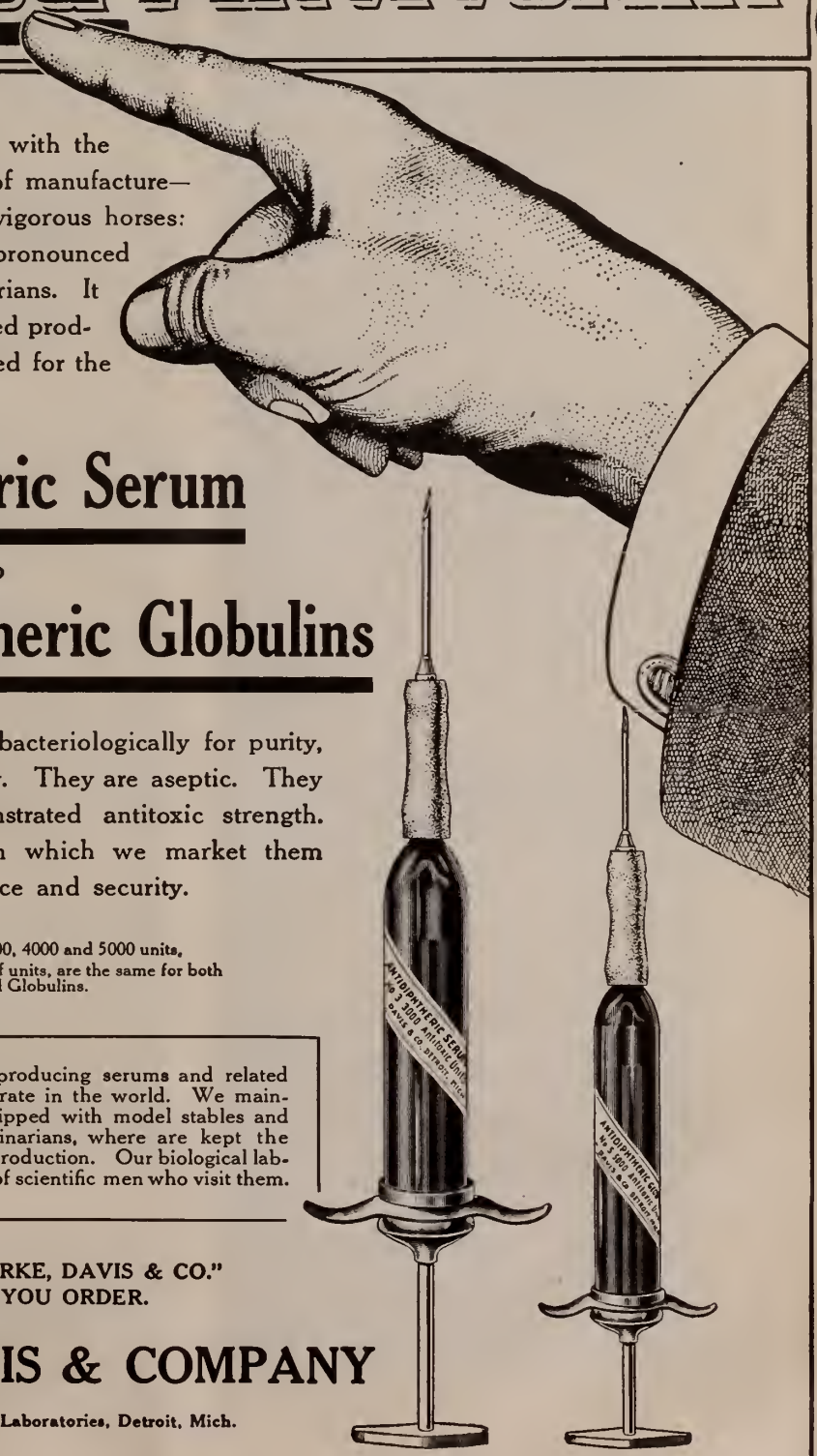
A. F. Hess, Elberon, N. Y. (*Journal A. M. A.*, July 15), says that in the prophylactic treatment the stress laid on maternal nursing is as it should be; it is the corner stone of prophylaxis. The endeavor to secure the proper milk for the infant that cannot be nursed is also in the right direction but he thinks we may concentrate our attention too closely on this one point. There are many reasons, he thinks, to show that the summer heat is the most important factor in the infantile summer diarrhea and should be reckoned with in etiology and prophylaxis. It has not, he thinks, received sufficient attention. There are therefore, he says, three main phases to be considered in the prevention of this disease; first, breast feeding; second, pure milk, which he thinks is not always sufficiently guarded in the home, and third, combating the high temperature of summer. We should insist that, in hot weather, infants wear light clothing and little of it (the woolen abdominal band is not necessary), that they should be bathed once a day and sponged many times and given cool water frequently. It would be well if we could illustrate this treatment in the waiting rooms and in the dis-

pensary. Opportunities should be provided for the tenement house baby to escape from the close enervating atmosphere of the home and street by proper utilization of airy spaces and recreation centers. As regards prophylactic feeding, he thinks an infant predisposed to summer sickness should be jealously guarded against overfeeding and, according to his observations, a too high percentage of sugar and fat is most to be feared. As soon as the diarrhea begins, castor oil should be given and food withheld for at least twelve hours, but water should be given frequently by the mouth if there is no vomiting, by rectum if vomiting is present. The best treatment for vomiting is gavage and starvation. If there are symptoms of marked loss of fluid, salt should be added to the water to make a hypotonic solution of 0.3 to 0.4 per cent. Fever should be controlled by occasional baths at 85 F., and frequent packs at this temperature, or lower if needed. Medicine, except perhaps a stimulant in case of collapse or severe prostration, is not needed. One of the fundamental principles of feeding is that it should be begun in very small quantities, a teaspoonful every two or three hours, excluding fats and sugars. He recommends beginning the feeding with the so-called "casein milk" of Finkelstein which contains a high percentage of protein, a moderate amount of fat and but little sugar and salt. If this is not at hand, skim milk may be given in very small doses. It is often difficult to decide how long to continue scant feeding, but he deprecates too excessive caution in this regard. In conclusion he speaks of summer complaint of older children which is treated, in a general way, on the same principles.

TUBERCULOSIS.

W. Porter, St. Louis (*Journal A. M. A.*, July 15), says there is more in the treatment of tuberculosis than the popular methods of open air, food and rest, important as these are. We are caring for a specific disease and our care should be something more than general. The use of tuberculin, he says, is justifiable but dangerous, if exceeding care is not used. From his own experience and that of the highest authorities, he would insist that the hypodermic method be employed only by those who have complete control of their patients in a sanitarium or elsewhere. In his own cases he begins with minimum doses and insists on complete rest for at least a week or until the susceptibility of the patient can be estimated. To render the use of tuberculin safer he has been experimenting with the inunction method, and with this he thinks it possible to have three results without danger: (1) The diagnostic test—and always definite, especially in the adult; (2) the therapeutic value; and (3) the stimulus of counter-irritation, which he considers of some importance. He is now using a pellet, made by Mulford & Co., of hydrated wool fat and cerate containing 0.2 gm. of old tuberculin. The skin is washed with alcohol and slightly stimulated by rubbing with dry absorbent cotton. One-half a pellet is then rubbed in with a glass spatula. If the test or other evidence is sufficient for diagnosis, slightly increased amounts are used each third day. He is sure that enough tuberculin can be absorbed by this method to secure reaction and that the inunction can be shown to be as effective as hypodermic injections or scarifications. It has the additional merit of safety. He believes that the slight reactions obtained by him in his cases indicate its therapeutic value, but more extensive tests are being made. Speaking of auto-immunization, he says there is here a large field for study. Every patient has his own tuberculin and, if resistance is made early enough or before the supply is too rapidly taken into the circulation, he becomes immune. The many cases of latent gland tuberculosis that are met with is evidence of this. But because of the absorption of and greater or less reaction to the tuberculin it is wrong to add to it by extrinsic dosage. He asks if it is not possible to aid the process of auto-immunity by slight direct exercise or passive exercise with the vibrator over the site of the infection. He has had suggestive results, though not conclusive ones, in experimenting along this line. Hints are given as to the value of keeping the lower intestine free and aseptic by enemas. When absolute rest is enjoined because of afternoon high temperature, he finds these of value. As regards internal medication, he specially mentions two agents: One, arsenic in the form of cacodylate of soda, which he would begin to employ with administering a grain daily carefully individualizing his cases. The other is iodin, which is an ideal germicide and a stimulant to metabolism and nutrition. He uses it directly to meet these indications and says that perhaps the most prompt result has been shown when it is brought into direct contact with the air passages in influenza, acute pharyngitis, tonsillitis, or laryngitis. The most direct method is the simplest. A few drops of the tincture in a small glass is placed in a larger glass containing hot water. The direct heat of the water bath causes rapid evaporation of the iodin, which, inhaled, reaches every part of the respiratory tract more thoroughly than by the use of spray or vapor and the effect is almost immediate in the conditions mentioned. He has found it of advantage in tuberculosis of the upper air passages and of the lungs where there are ulcerated surfaces. Iodin inunctions are also mentioned and, in conclusion, he mentions that another year's experience has made him appreciate still better the value of the fixation of the chest in hemorrhage and acute tuberculosis with rapid absorption and consequent fever, described by him last year before the Missouri State Medical Association.

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are tested and retested—bacteriologically for purity, physiologically for activity. They are aseptic. They are of accurately demonstrated antitoxic strength. The syringe container in which we market them is a model of convenience and security.

500, 1000, 2000, 3000, 4000 and 5000 units.
Prices, per given number of units, are the same for both Serum and Globulins.

NOTE.—Our facilities for producing serums and related products are the most elaborate in the world. We maintain a large stock-farm, equipped with model stables and supervised by expert veterinarians, where are kept the animals employed in serum-production. Our biological laboratories are the admiration of scientific men who visit them.

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THERAPEUTIC NOTES.

THE CHOICE OF AN ANTITOXIN.—No therapeutic agent which the physician uses today needs to be selected with greater care than the serums. These products must not only be individually specific, produced from specific germs or their toxins, but they must be pure—elaborated in the blood of perfectly healthy animals. The preparation of prophylactic and curative serums should never be intrusted to the inexperienced or to those who are hampered by lack of facilities. In choosing an antitoxin the practitioner should consider only serums of known reliability—products into which no element of conjecture enters. His own interests and those of his patient demand this.

With reference to diphtheria antitoxin it is noted that Parke, Davis & Co., in their current announcements to the medical profession, feature both the "serum," which they have produced unchanged for many years, and the newer "globulins," the two products being presented apparently upon even terms, without favor or prejudice to either. In explanation of this the manufacturers point to a division of sentiment on the part of practitioners, some of whom indicate a preference for the older serum, while others favor the globulins. In point of efficiency the two products stand upon an equal footing, each being of definite antitoxic strength. Having no desire to influence the judgment of physicians, and in line with their well-established policy to meet the wants of the profession, Parke, Davis & Co. announce that they will continue to furnish both.

LITERATURE WORTH READING.—The value of heat as a therapeutic agent has been so conclusively proven that it will admit of no further argument.

The difference, however, between convective heat in contra-distinction to radiant heat is a subject in which the profession generally is interested.

Convective heat is particularly applicable in cases where radiant heat is not indicated and the reverse is quite true. Their differential thermic value is clearly set forth in the October issue of the *Bloodless Phlebotomist* along with an interesting paper by Dr. David MacIntyre, a Cunard surgeon, upon "Drugs at Sea."

In the same issue of the *Phlebotomist*, Dr. Edward Parrish of Brooklyn presents his methods of treating Tic Douloureaux and Dr. Leverett of Yonkers relates his experience in the successful handling of ivy poisoning cases, which in many instances are quite as intractable to handle as Tic Douloureaux.

In addition to these papers, much other interesting and instructive material is given, and it is worth while to write to The Denver Chemical Mfg. Co., New York, for a copy of the *Bloodless Phlebotomist* for October, which they will send upon request.

HELPING A CHILD THROUGH SCHOOL.—Close application to school duties frequently lowers the health of a child and makes it an easy prey to prevalent winter infections. These may be largely avoided if the child be built up to the point where the normal powers of resistance will protect it from those diseases to which a weakened organism easily succumbs.

For this purpose nothing is the peer of Cordial of the Extract of Cod Liver Oil Compound (Hagee). Containing the active principles of cod liver oil, supplemented by the addition of the hypophosphites of sodium and calcium, it is a tissue food of the highest order, and lends to the little student its contained nutritious elements. Given systematically to those children in need of such an agent, it will be found of decided advantage in helping them through school.

THE PURDUE FREDERICK CO., proprietors of Gray's Glycerine Tonic, have just issued a folder entitled "Some Valuable Data," giving the solubility and doses of important chemicals, which we believe the busy physician has occasion to look up every day. This Table has been prepared with the earnest hope that it may prove of great help to the medical profession and be preserved for daily reference.

DOUBLE ELIMINATION.—Where the body is saturated with the waste-products of metabolism it is an important part of good medical treatment that these useless, harmful substances be thoroughly eliminated. The urinary system is a channel of evacuation, as well as the intestinal tract, and to free the system of toxic waste-products through both these channels is a logical procedure.

Defective elimination readily becomes a chronic condition since the toxemic patient lacks that initiative which is necessary to active physical exercise. A rational therapeutic treatment must be instituted while proper hygienic conditions are being re-established. In these cases, Cystogen-Aperient performs a double service by stimulating to normal function, and by disinfecting the urinary and intestinal tracts; Cystogen-Aperient (granular effervescent salt) combines the tonic and laxative properties of sodium phosphate and tartrate with the urinary-antiseptic and solvent action of Cystogen ($C_6H_{12}N_4$).

WHEN THE NERVES ARE IN A RIOT.—When the nerves are in a riot and the whiskey-laden patient sees green elephants turning hand-springs on his bed-posts—then is there clear indication for PASSIFLORA INCARNATA (Daniel's Concentrated Tincture). It will soothe the inflamed brain, quiet the quivering nerves and procure for the patient a deep, restoring sleep. PASSIFLORA INCARNATA (Daniel's Concentrated Tincture) is more potent than chloral and the bromides, and has none of their evil effects. A sample bottle sufficient for trial will be sent to any reputable physician upon request by Laboratory of John B. Daniel, Atlanta, Georgia.

COTTON SEED OIL IN STRUMOUS STATES.—Of late years cotton seed oil, in the form of NUTROMUL, an emulsion containing a high percentage of the oil, has been extensively used in strumous states with most gratifying results. It possesses a higher food value than cod liver oil, and, as a rule, results from its administration are more prompt. NUTROMUL (Brown's Cotton Seed Oil Emulsion) is increased in

efficiency by the addition of the hypophosphites of lime, soda and manganese, and without question, one of the greatest reconstructives now at the profession's command. NUTROMUL is an ethical product and merits every physician's consideration. It is palatable and may be continued over long periods of time without provoking a disinclination for it. This last feature adds no little to its therapeutic efficiency, for agents of this character are frequently needed in women and children. The Nottoc Laboratory, Atlanta, Georgia, will gladly furnish samples to members of the medical profession.

EXHIBITORS AT THE VERMONT STATE MEDICAL SOCIETY MEETING.

Exhibit No. 1.

REEVES' DRY STERILIZED IODIZED CATGUT in double envelope, germ proof, prepared by Surgeons & Physicians Supply Co., Sudbury building, Boston, Mass. For the past SIX YEARS specimens from each lot prepared have been tested and *not one* has proved unsterile during that time.

Exhibit No. 2.

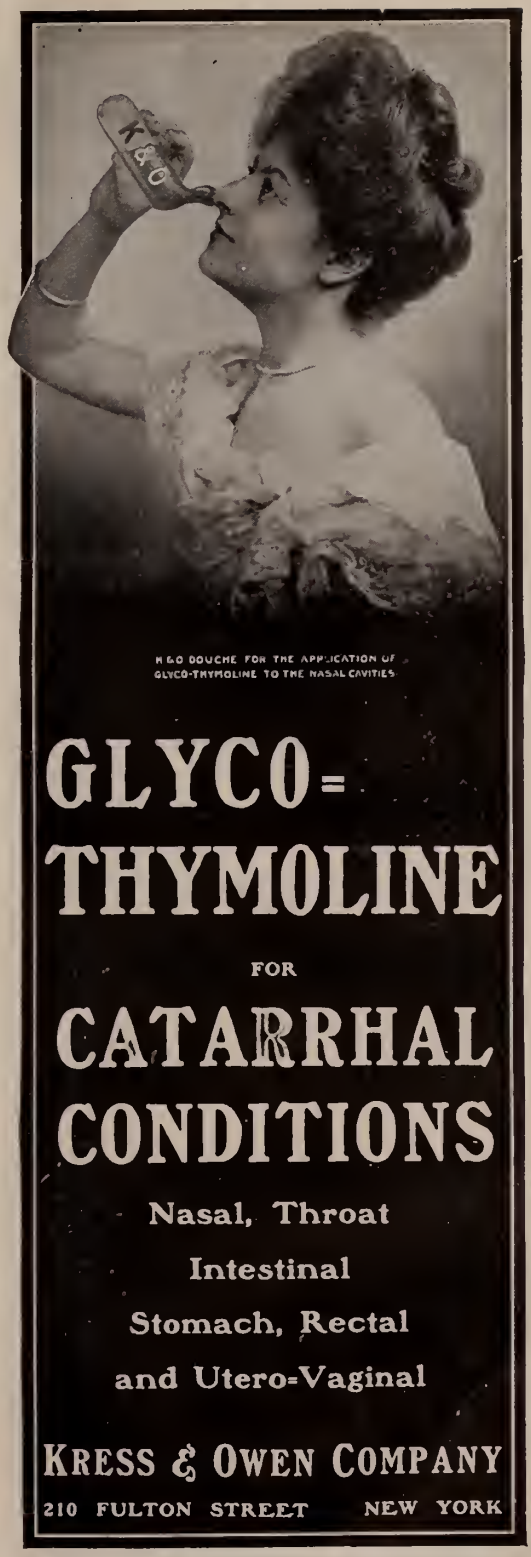
MALTINE WITH OLIVE OIL AND HYPOPHOSPHITES.

While the taste and odor of the Cod-Liver Oil are very effectively masked in Maltine with Cod-Liver Oil the fact remains that many persons have a prejudice, probably largely due to mental suggestion, to Cod-Liver Oil. During the last few years the medicinal value of Olive Oil has been demonstrated by many prominent physicians, and this bland vegetable oil is rapidly taking the place of Cod-Liver Oil with satisfactory and often brilliant results in cases in which the latter is not taken with ease.

The Olive Oil used in Maltine with Olive Oil and Hypophosphites is the finest and purest oil procurable in Italy, where it is especially selected for and exported to us.

Exhibit No. 3.

KEASBEY & MATTISON COMPANY, of Boston, New York, Chicago and Ambler, Pa., exhibited at this meeting, its country wide famous line of Effervescent Salts.



Few physicians in this country are not familiar with Alkalithia, Bromo-Caffeine, Phos. & Benz. Soda, Salaperient and other Effervescent Salts of Keasbey & Mattison Company manufacture. The members of the Vermont State Medical Society visited with interest the Exhibit, and obtained samples of these Salts.

Exhibit No. 4.

Glyco-Thymoline was present with a characteristic exhibit. Representatives of the Kress & Owen Company detailed the many special advantages of their ideal alkaline antiseptic, Glyco-Thymoline, and delivered sufficient supply of the solution for clinical investigation. They also presented the K. & O. Nasal Douche and the G. T. Eye Bath.

Kress & Owen Company, 210 Fulton St., N. Y. City.

Exhibit No. 5.

Lea & Febiger, Medical Publishers, Philadelphia, 706-10 Sansom St.; New York City, No. 2 W. 45th St., were present with an exhibit of their latest books.

Exhibit No. 6.

Fairchild Brothers and Foster, specialists in the applied chemistry of the digestive ferments, exhibited products from the gastric and pancreas glands—for use in internal medicine; for preparing foods for the sick; for "topical" application. They also exhibited, in capsules, holadin, an extract of the entire pancreas gland, plain, and in combination with bile salts, succinate of soda and phenolphthalein; lactic bacillary tablets, prepared from the true Bulgarian (Oriental) bacillus, for use by ingestion in the lactic bacillary treatment against auto-intoxication; also laibose, a food composed of the solids of pure whole milk and the entire digestive substance of whole wheat.

Exhibit No. 7.

J. B. Lippincott Company of Philadelphia showed in addition to their line of standard high-grade medical publications, preliminary samples of such important works as the second volume of Keibel and Mall's "Human Embryology," the work of the two most famous American and foreign embryologists: David Bovaird, Jr.'s "Internal Medicine," for students and practitioners; and new editions of Lippincott's New Medical Dictionary, Ortner's "Treatment of Intestinal Diseases," based on the fifth German edition. Emerson's "Clinical Diagnosis, and Essentials of Medicine," Cohnhein's "Diseases of the Digestive Canal," Schmidt's "Pain," based on the second German edition, Davis' "Mother and Child," and Noguchi's "Serum Diagnosis of Syphilis," etc.

Exhibit No. 8.

A Conservative House.—Some of the members of the medical profession would open their eyes could they look over the files of the Denver Chemical Manufacturing Company, manufacturers of Antiphlogistine, and see the many requests for window hangers, store advertising, etc., which they are constantly refusing. This company could get an almost unlimited amount of advertising, good advertising too, at no expense, except for the printing of the cards or booklets, if they did not have too great a pride in the honorable position which they occupy as purveyors to the medical profession. Perhaps they feel the ethical requirements of their position more keenly on account of the personnel of the company. Half the members of the board of directors are physicians who have spent each of them many years in active practice, the president of the company being an ex-president of his State society, and the head of the advertising department, himself a physician, for many years secretary of his county society. With such a personnel, it is not surprising that the advertising is not only strictly ethical, but even ultra-conservative in spirit.

Exhibit No. 9.

Henderson's Drug Store, the "Home" of the Doctor.—We have most every thing you need, if not, will be pleased to order for you. 172 College Street, Burlington, Vt.

Exhibit No. 10.

The Chas. H. Phillips Chem. Co.—Phillips Milk of Magnesia, the Perfect Anti-Acid. Phillips Phospho Muriate of Quinine, unexcelled as a tonic and reconstructive. Phillips Palatable Cod Liver Oil, most easily assimilated. Phillips Digestible Cocoa, with the rich chocolate flavor.

Exhibit No. 11.

The E. L. Patch Company, manufacturing pharmacists, 99 North Street, Boston Mass., manufacturers of a full line of select standard pharmaceuticals.

Exhibit No. 12.

Mellin's Food.—True modifier of fresh cow's milk.

Exhibit No. 13.

Schieffelin & Co., New York.—The exhibit of Messrs. Schieffelin & Co., was devoted to biologic products, especially diphtheria anti-toxin, anti-typhoid vaccine, and bovine vaccine virus.

This firm supplies the diphtheria anti-toxin that is used throughout the State of Vermont.

They are featuring a new syringe that is being used in connection with their anti-typhoid vaccine and diphtheria anti-toxin. The syringe has special features that will appeal to the physician.

They have also a new vaccine-point package that is especially attractive.

The Slowness of Certain Stomachs to Empty.

It has been noted that ptosed stomachs with ptosis of the pylorus sometimes manifest considerable slackening in the evacuation of their contents without any anatomical or clinical causes other than the ptosis to explain it. This retardation in the process of emptying may exist in stomachs which fill normally, and in which peristalsis is normal. Chilaiditi, of Vienna, has been drawing the attention of the Société de Radiologie Médicale de Paris (*Bull. et mem.*, No. 19, 1910) to some considerations which, in his opinion, may not only explain this condition but also help to clear up the pathology of some affections of the duodenum, including ulcer. He insists particularly upon the point that for the proper discharge of the normal functions of the orifice of the stomach it is essential that there should be a condition of acidification above the pylorus and of alkalinization below. Normally, the stomach contents being acidified by the gastric juice, the pylorus opens to discharge a portion of them, which passes into the duodenum. The pylorus is closed again immediately, and is not reopened until the alkalinization of the duodenal contents has taken place. But an abnormal anatomical configuration of the gastroduodenal tract interferes with the rhythm of the process.

In a ptosed stomach with ptosis of the pylorus, the greater part of the chyme propelled into the upper portion of the duodenum—the ultra-pyloric



portion, which is considerably in evidence after the contraction of evacuation, and which has been named by Holzknecht the "duodenal bulb" —may be arrested in that bulb for a longer time than normally. This arrest is due to the fact that the ptosed stomach and pylorus carry away the mobile portion of the duodenum, while the fixed portion, which commences as the summit of the subhepatic angle, remains in place, resulting in a protraction of the duodenal bulb. Further, owing to the fixity of that angle and the lowered pylorus the chyme remains in the bulb, and is not immediately propelled by the contractions into the middle part of the duodenum. The upright instead of horizontal position of the bulb, and the lack of tonicity in its walls, have also to be reckoned with. Thus there is a delay in alkalinization by the bile and pancreatic juice, and consequently the pylorus remains closed in spite of the preparation and sufficient acidification of the stomachal chyme above. The eventful emptying of the bulb may take place because of the action, tardy though it be, of the alkaline juice of the glands of Brunner, or because the muscles of the portion have not lost the whole of their tonicity, or because massage and movement and abdominal compression have assisted the passage of the aliment.

The author believes that the very satisfactory results which have been noted in accelerating the stomach evacuation by making the patient lie on the right side for four hours after the principal meal are really due to a movement of these duodenal contents which permits the reopening of the pylorus. The weight of the chyme when the patient is in such a position assists its progress. Massage, also, although it should never be increased with the idea of forcing the pylorus, may have good results when directed upon the duodenum. He emphasizes the point that ulcer of the duodenum may arise as a result of this special duodenum configuration. It is the first or juxtapyloric portion of the duodenum, rendered anatomically abnormal by elongation and atony, which holds the stagnant acidified chyme, and certain of the acids may readily have a serious effect upon its altered coating. This needs to be considered in relation to the fact that, in 95 per cent. of the cases of duodenal ulcer, the ulcer occupies a position in the first portion of the duodenum, and in the majority it is found in the immediate neighborhood of the pylorus.—*British Medical Journal.*

Presence of Gonococci in the Blood in Gonorrhea.

Filipo Lofaro shows that researches have been made to prove that gonorrheal arthritis is directly caused by the presence of the gonococcus in the joints. It also has been proven that the usual complications of gonorrhea are but new localizations of the germs. The author made a study of the presence of the germs in the circulating blood in 67 cases of acute and chronic nephritis. He demonstrated the presence of the germs in the blood in 58 per cent. of these cases. They were not present in the acute cases, but in the chronic cases, in which there was greater virulence of the germs or deeper lesions, the gonococcus was present. The author does not know how these germs penetrate from the urethra into the blood, but supposes that in more severe cases they crowd the lymphatics, and in this way get into the blood. —*Il Policlinico.—Charlotte Med. Journal.*

Thickened Pleura and Persistent Pleuritic Effusions.—Dieulafoy (*La Presse Médicale*) mentions some cases of this nature and discusses the problem of treatment. The first case was that of a young woman who in the space of two months required paracentesis thoracis 15 times, the total amount of fluid withdrawn amounting to 40 litres. The pleurisy terminated in a cure, but its nature was proved by the subsequent development of pulmonary tuberculosis. The second case was that of a man aged 35, of previous good health, who developed pleurisy with effusion. Subsequently at regular intervals over a period of years he required the withdrawal of fluid from the chest, there being no other evidence of disease. The pleura was evidently much thickened, but still there was a remarkable freedom from symptoms other than those due to the mechanical pressure of the fluid, even though at times during its later stages such fluid has been hemorrhagic or purulent and fetid. Microscopic examination of the fluid showed the presence of granular lecocytes, endothelial cells, streptococci and pneumococci. The micro-organisms, however, on cultivation were found to be very attenuated in virulence. The third case, that of a man 59 years of age, was of a very similar nature. For 18 years thoraco-centesis was performed at intervals without incident. Then the fluid became sanguino-

lent with a large proportion of lymphocytes. The pleura was much thickened, but the existence of the condition seemed to have very little effect on the general health of the patient. There was no sign of pulmonary tuberculosis, and the fluid in this case was proved to be sterile; the nature of the thickening was therefore not explained. As regards treatment, Dieulafoy refers to a method of decortication of the lung practiced by M. Delorme. Before such an operation is undertaken it is, of course, necessary to endeavor to ascertain beforehand the expansibility of the lung, as well as the thickness and resistance of the enveloping pleura, by means of radioscopy and radiography. But in view of the maintenance of good general health, the complete though temporary relief obtained by withdrawal of the fluid, and the danger and risk of failure involved in such an operation, one would naturally reflect seriously before suggesting or undertaking it.—*Charlotte Medical Journal.*

The Corpus Luteum.

Chiri (*L. Obstet.*) says that the evolution of the corpus is the same in man as in mammals; only the duration of the development varies, the general process being the same. In pregnancy there exists a sort of activity which acts strongly upon the ruptured follicle to transform it into the corpus luteum, and also more feebly upon the unruptured follicles and the cells of the stroma. The corpus luteum has the power to lengthen the spaces between the periods, and its extirpation brings them closer together. It is the prolonged action of this body which prevents menstruation during gestation. During a normal menstruation we do not find differentiated follicles, but a normal corpus luteum; five or six days after the period there are found a follicle developing and a corpus in state of regression; fourteen or fifteen days after the period the follicle is ripe, or ruptured, and the previous corpus is atrophied; seventeen to twenty days after the period we cannot find a new follicle in process of differentiation, but a corpus is seen in process of formation; twenty-five to twenty-eight days after the period we find a perfect corpus luteum and no new follicle. Thus we conclude that the follicle ruptures twelve to fifteen days before the period and the corpus then begins to develop. In mammals who have no interstitial gland the corpus does not cause the rut. Ancel and Bouin advance the theory that there are two kinds of animals; first those with spontaneous ovulation, followed by the formation of a corpus luteum and reappearing at regular periods; second, animals which form a corpus luteum after copulation only, a corpus of gestation. There is a difference of the ovarian structure in these two kinds of animals; this consists in the existence of an interstitial substance in the ovary in the animals with spontaneous ovulation. The interstitial gland of the ovary of mammals with spontaneous ovulation and the periodic corpus of the spontaneous ovulation are homologous formations; they are glands of internal secretion which determine the sexual characteristics; they correspond to the interstitial portion of the male testicle. The corpus of gestation exists in all mammals; it is adapted to gestation and not related in function to the tissues contained in the male.—*Charlotte Medical Journal.*

Absorption from Muscles.

S. J. Meltzer has found that drugs injected into muscles are absorbed almost as rapidly as when injected directly into the veins. Thus epinephrin will cause an almost immediate and pronounced rise in blood-pressure when injected into the muscles, while after subcutaneous use there is hardly any reaction. The rule applies to both colloidal and crystalloidal solutions. Careful experiments showed that the rapid absorption was not due to the fact that the needle entered a vein. Absorption is very much better from the lumbar muscles than from the glutei, since the former consist of finer muscle bundles with less

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connective tissue, while with the latter the fluid only too readily enters the loose areolar connective tissue with which these muscles are abundantly supplied.

The author recommends that salvarsan be preferably given by injection into the lumbar muscles. He favors small doses given repeatedly, preferably in acid solution. It is not likely that necrosis of muscular tissue is of common occurrence, but if it occurs, the lesion will probably heal rapidly.—*Berl. klin. Woch.*, March 6, 1911.

RECENT METHODS OF TREATING GONORRHEA.

Schindler's method of treating gonorrhea consists in giving a hollow suppository, containing 1 cc. of a 1:1000 solution of atropine morning and evening per rectum and treating the acute process in the anterior canal wtih strong (2- to 5-per-cent.) solution of protargol. When the posterior canal is affected, 1 to 3 syringefuls of ¼- to ½-per-cent. protargol are employed. The object of the atropine is to keep the muscular apparatus of the sexual organ at rest. A number of cases treated according to this method by Hecht and Klausner improved very rapidly and could be discharged early. Complications were also very rare. A number of afebrile complications of the disease were treated by the authors with gonococcus vaccines, often with surprising results, especially in joint affections and epididymitis. Certain cases, however, will not react, for reasons not yet apparent and in open lesions, as in uncomplicated gonorrhea, no improvement need be expected. The injections were generally made into the glutei.—*Berl. klin. Woch.*, May 15, 1911.

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¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

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The number of women in medicine is decreasing, according to the *Journal of the American Medical Association,* which recently published a report on medical education in the last year. In that time there were 680 women studying medicine, a decrease of 227 below 1910 and a decrease of 241 below 1909. The percentage of all medical students was 3.4 as compared with 4.2 last year. There were 159 women graduates this year, or 37 per cent. of all graduates. In 1910 there were 907 women students and 157 graduates, while in 1909 there were 921 women students and 162 graduates.—*Medical World.*

Human lungs at an altitude equal to that of Pike's Peak, 14,147 feet, are capable of absorbing 40 to 50% more oxygen than at the sea level; and the red corpuscles of the blood are increased from 5,000,000 to 7,500,000 to the cubic millimeter, according to deductions made by Drs. J. S. Haldane, C. Gordon Douglas and Yandell Henderson, of Oxford University, England, and Dr. E. C. Schneider, of Colorado Springs. These scientists have been making experiments at the summit of Pike's Peak for the last six weeks in the interests of a society of England and of Yale and Oxford Universities. (See our abstract on Oxygen in Tuberculosis, page 437.)—*Medical World.*

Pruritus of the Vulva in Pregnancy.—Rudaux (*La Clinique*) finds that pruritus is a common trouble among pregnant women, and that it is often so aggravated as to entail loss of rest and sleep, and to induce pronounced nervous irritability. In some cases the cause is without doubt the presence of more or less well-marked discharge, but he has found sugar in the urine of all the pregnant women who have complained of discomfort and irritation of this part. He permits no ingestion of sugar or sweets, and prescribes for them vichy water as a drink. A local application of hot water, with 10 grams of chloral, is made four times a day, the parts being afterwards treated with an ointment of ichthyol 10 grams, and benzoin. A few days later a powder made up of zinc oxide, bismuth and talc will be found useful. If there is any leucorrhea a morning and evening douche containing 20 grams of sodium borate is prescribed.

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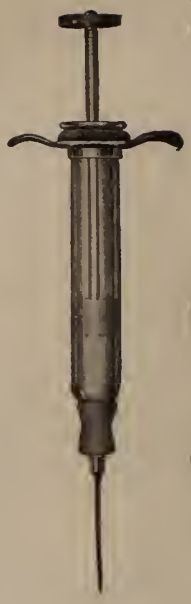
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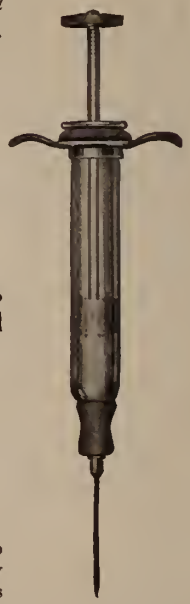
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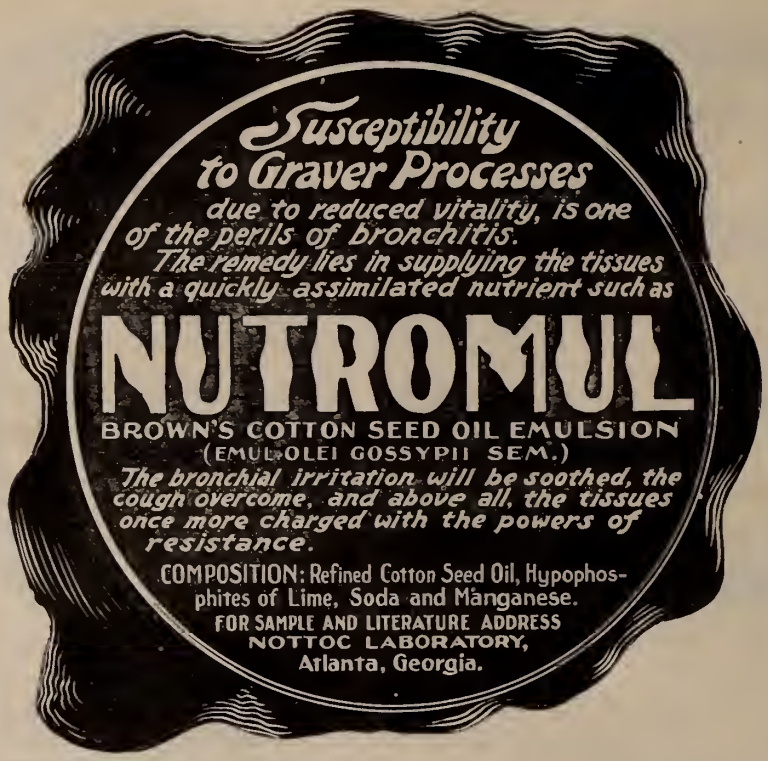
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EARLY DIAGNOSIS OF CANCER OF THE UTERUS.

Siredey states that the symptoms generally considered diagnostic in cancer of the uterus, pain, fetid discharge, and hemorrhage, do not appear in the beginning of the disease, but only when it has advanced to the period of ulceration. The pain in the early stages is of the character that is met with in metritis, heavy, located in the lumbar region, and extending to the legs and pelvis. The lancinating neuralgic pains begin only when the tissues outside of the uterus containing the nerves become involved. The discharge is like ordinary leucorrhea, without the fetor that is expected until the late stages of necrosis of the growth. The symptom of hemorrhage varies much with the type and location of the growth. Hemorrhage that is repeated in the intermenstrual stage is of more value than an excessive flow at the menstrual period. Extreme fetor is more apt to occur in senile metritis, due to the action of anerobic bacteria. The only really accurate method of diagnosis is currettement and examination of the scrapings. The author advocates dilatation of the cervix, and such examination in every case of suspected cancer of the fundus.—*Le Bulletin Medical.*

DISINFECTION OF THE HANDS WITH ALCOHOL AND TANNIN.—Zabludowski (*Deut. med. Wochensch.*) states that bacteriological experiments have shown that a 5 per cent. solution of tannic acid in alcohol (95 per cent.) is sufficient to disinfect the hands after contact for two minutes, and the skin of the operative field for one minute. This procedure has the advantage over iodin or alcohol disinfection that it permits of previous washing of the hands, although the time required for this may be greatly reduced. From December, 1909, to the end of March, 1910, the method was employed in 232 operations, including 54 herniotomies. Stitch abscess occurred in but one instance, a slight transient infiltration in another, and a small non-suppurating hematoma in two others. These results are especially noteworthy since the author's hospital is not provided with special operating rooms for septic cases and no masks or gloves are worn. The only disadvantage is that the alcohol-tannin leaves stains on the wash and sometimes on the hands, especially if the instruments have lost their plating, so that tannic acid comes in contact with the steel. Such stains, however, are readily removed with 1 per cent. oxalic acid solution.

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Vermont Medical Monthly.

VOL. XVII. NOVEMBER 15, 1911. NUMBER 11.

ORIGINAL ARTICLES.

ANOCI-ASSOCIATION—A NEW PRINCIPLE IN OPERATIVE SURGERY.*

BY

G. W. CRILE, M. D.,
Cleveland, Ohio.

Mr. President, Members of the Vermont State Medical Association, Ladies and Gentlemen:

It is my first and pleasant duty to thank you for the honor you have conferred upon me in your invitation to address you at your annual meeting. I feel that this honor is greatly enhanced because of its being the first address given under a bequest to your association. In your organization you have set a worthy example which other less fortunate states may well strive to emulate. Though a small state situated at one end of the map of our great country, you have followed nature's great law of compensation by making up with brains what you lack in geography. The children of Vermont by virtue of this ability and their character have played a notable role in the life and progress of every large city of our country. It is not therefore in empty words that I express the fear that in appearing before you on this notable occasion my effort will fall short of my opportunity.

I have chosen as my theme a new subject in the presentation of which I am obliged to repeat some experimental work previously reported.

As it seems to me the urgent problem of surgery is that of reducing still further the operative risk, and minimize still further the post operative, suffering and later nervous impairment after the operation. This is my theme.

When a barefoot boy steps on a sharp stone there is an immediate discharge of nervous energy in his effort at escape from the wounding stone. This is not a voluntary act. It is not due to his own personal experience (i. e., his ontogeny), but is due to the experience of his progenitors during the vast periods of time required for the evolution of the species to which he belongs, i. e. his phylogeny. The wounding stone made an impression upon the nerve receptors in the foot similar to the innumerable injuries which gave origin to this nerve mechanism itself during the boy's vast phylogenetic or ancestral experience. The stone supplied the phylogenetic association and the appropriate discharge of nervous energy automatically followed. If the sole of the foot is repeatedly bruised or crushed by the stone, shock may be produced. If the stone be only lightly applied then there is also a discharge of nervous energy from the sensation of tickling. The body has had implanted within it in a similar manner other mechanism of ancestral or phylogenetic origin whose purpose is the discharge of nervous energy for the good of the individual. In this paper, I shall discuss the origin and mode of action of some of these mechanisms including certain phases of anesthesia.

The word anesthesia—*meaning without feeling*—describes accurately the effect of ether in anesthetic dosage. Although no pain is felt in operations under inhalation anesthesia, the *nerve impulses set up* by the surgical operation still reach the brain. We know that not every portion of the brain is fully anesthetized, since surgical anesthesia does not kill. The question then is—what effect has trauma under surgical anesthesia upon the part of the brain that remains awake? If, in surgical anesthesia, the traumatic impulses cause an excitation of those wide-awake cells, are the remainder of the cells of the brain, despite anesthesia, influenced in any way?

If influenced, they are prevented by the anesthesia from expressing the same in conscious perception or in muscular action. Whether the *anesthetized* cells are influenced or not must be determined by noting the physiologic function after anesthesia has worn off, and in animals by an examination of the brain cells as well. It has long been known that the vaso-motor, the cardiac and the respiratory centres discharge energy in response to traumatic stimuli applied

*Read before the ninety-eighth annual meeting of the Vermont State Medical Society at Burlington, Oct. 13, 1911.

to various sensitive regions of the body during surgical anesthesia. If the trauma is sufficient, exhaustion of the entire brain is observed after the effect of the anesthetic is worn off—that is to say, despite the complete paralysis of voluntary motion and the loss of consciousness due to ether, the traumatic impulses that are known to reach the *awake* centres in the medulla, also reach and influence every other part of the brain. As to whether or not the consequent functional depression and the morphologic alterations seen in the brain cells may be due to the low blood pressure which follows excessive trauma is answered by the following experiments, viz.: the circulation of animals was first rendered static by over-transfusion, and was controlled by a continuous blood pressure record on a drum, the factor of anemia was wholly excluded during the application of the trauma and during the removal of a specimen of brain tissue for histologic study. In every such instance morphologic changes in the cells of all parts of the brain were found, but it required more trauma to produce equal morphologic changes in animals protected against low blood pressure than in animals whose blood pressure gradually declined in the course of the experiments.

In the cortex and in the cerebellum, the changes in the brain cells were in every instance more marked than in the medulla. There is also strong *negative* evidence that traumatic impulses are not excluded by ether anesthesia from the part of the brain that is apparently asleep. This evidence is as follows:

If the factor of fear be excluded, and if in addition the traumatic impulses are prevented from reaching the brain by cocain blocking, then despite the intensity or the duration of the trauma within the zone so blocked there follows no exhaustion after the effect of the anesthetic disappears and no morphologic changes are noted in the brain cells. A still further negative evidence that inhalation anesthesia offers little or no protection to the brain cells from trauma is derived from the following experiment: A dog whose spinal cord had been divided at the level of the first dorsal segment, and then kept in good condition for two months, showed a recovery of the spinal reflexes, such as the scratch reflex, etc. This animal is known as a "spinal" dog. Now, in this animal the abdomen and hind extremities have no direct nerve connection with the brain. In such a dog a continuous severe trauma of the abdominal viscera and of the hind extremities lasting four hours caused not the slightest change in either the circulation or in the respiration, and no microscopical alteration of the brain cells. Judging from a large number of experiments on *normal* dogs under ether such an amount of trauma would have caused not only a complete physiologic exhaustion of the brain but also morphologic alterations of all of the brain cells and physical destruction of many. We must therefore conclude that, although ether anesthesia produces unconsciousness, it *apparently protects none of the brain cells* against exhaustion from the trauma of surgical operations, ether is, so to speak, but a veneer. Under nitrous oxide anesthesia there is approximately only one-fourth the exhaustion on equal trauma as under ether: either nitrous oxide protects or ether predisposes to exhaustion under trauma. With this as a point of departure we will inquire into the cause of this exhaustion of the brain cells.

ON THE CAUSE OF THE EXHAUSTION OF THE BRAIN CELLS FROM TRAUMA OF VARIOUS PARTS OF THE BODY UNDER INHALATION ANESTHESIA.

Numerous experiments on animals upon the effect of ether anesthesia per se, i. e., ether anesthesia without trauma, showed that although certain changes were seen there was neither characteristic physiologic exhaustion after the anesthesia had worn off nor were there seen the characteristic changes in the brain cells. Turning to trauma, in a study of the behaviour of individuals as a whole under deep and under light anesthesia, we at once found the cue to the discharge of energy, the consequent physiologic exhaustion and the morphologic changes in the brain cells.

If, in the course of abdominal operations, rough manipulation of the parietal peritoneum is made, there is frequently observed a marked increase in the respiratory rate and an increase in the expiratory force, even to the extent of an audible expiratory groan. Under light ether anesthesia severe manipulation of the peritoneum often causes such vigorous contractions of the abdominal muscles that the operator is greatly hindered in his work.

Among the unconscious responses to trauma under ether anesthesia are purposeless moving,

withdrawing of the injured part, and if the anesthesia is sufficiently light and the trauma sufficiently strong, there may be an effort directed toward escape from the injury. In injury under ether anesthesia every grade of response may be seen, from the slightest change in the respiration or in the blood pressure to a vigorous defensive struggle. As to the purpose of these subconscious movements in response to injury, there can be no doubt, *they are efforts at escape from the injury.*

Can anyone picture the actual result of a formidable abdominal operation extending over a period of half an hour or more in an unanesthetized human patient if extensive adhesions are broken up, or if a large tumor is dislodged from its bed? In such a case would not the nervous system discharge its energy to the utmost in efforts to escape from the injury and would the patient not suffer complete exhaustion? If the traumata, under inhalation anesthesia, be sufficiently strong and repeated in sufficient numbers, the brain cells will finally be deprived of their dischargeable nervous energy and become exhausted just as exhaustion follows a strenuous and too prolonged muscular exertion; for example, such as is seen in endurance tests. Whether the nerve energy of the brain is discharged by injury under anesthesia, or whether by ordinary muscular exertion, identical morphologic changes are seen in the nerve cells. In shock from injury, in exhaustion from over-work (Hodge & Dolley) and in exhaustion from pure fear, the general functional weakness is similar—in each a certain length of time is required to effect recovery and in each there are morphologic changes in the brain cells. It is quite clear that in each of these cases the altered function and form of the brain cells are due to an *excessive discharge of nervous energy.* This brings us to the next question, viz.: what determines the discharge of energy from trauma with or without inhalation anesthesia?

THE DISTRIBUTION OF THE EMOTIONS IN NATURE.

We will first consider *fear.* I believe that it can be shown that the emotion of fear can be elicited only in animals that utilize a motor mechanism in defense against danger or escape from it. The defense of the skunk is a diabolic odor which repels its gross enemies. The skunk has no adequate equipment for defense or escape by muscular exertion. The skunk has little or no fear. Certain species of snakes are protected by venom. They possess no other adequate means of defense or escape. They show little or no fear. Other animals because of their prowess have but few fears. The lion, the grizzly bear and the elephant are examples. Animals having armoured protection, as the turtle, have little fear. It is obvious that fear is not universal. Apparently the emotion of fear is felt only in those animals whose self-preservation is dependent upon an uncertain adequacy of their powers of muscular exertion either in defense or in flight.

What are the principal phonomena of fear? They are palpitation of the heart, acceleration of the rate and alteration of the rhythm of the respiration, cold sweat, rise in body temperature, tremor, pallor, erection of the hair, suspension of the principal functions of digestion, muscular relaxation, fixation of the muscles of the eyes, dilation of the pupil. The function of the brain is wholly suspended except that which relates to the self protective response to the object feared. Neither the brain nor any other organ of the body can respond to any other lesser stimulus during the dominance of fear.

From the foregoing it would appear that under the influence of fear, most, perhaps all of the organs of the body, are divided sharply into two classes; first, those that are *stimulated,* and second, those that are *inhibited.* Those that are stimulated are the entire muscular system, vasomotor and loco-motor systems, the senses of perception, the respiration, the mechanism for erecting the hair, the sweat glands, the thyroid gland, the adrenal gland, (Cannon), and the special senses. On the other hand the digestive and the procreative functions are inhibited. What is the significance of this grouping? So far as we know the organs stimulated include those, and only those that increase the efficiency of the animal for fight or for flight. It is through skeletal muscles that the physical attack or escape is effected—these muscles alone energize the claws, the teeth, the hoofs, and the means for flight. The increased action of the heart and the adrenalin stimulation of the blood vessels greatly increases the efficiency of the circulation; a much needed increased efficiency to force the blood into actively contracting muscles; the increased action of the thyroid gland augments metabolic activity; there is evidence that glycogen is actively called out, it being the most

immediately available substance for the production of energy; the increased activity of the repiration is needed to supply the greater requirements of oxygen and the elimination of the increased amount of waste products; the dilation of the nostrils affords a freer intake of air; the increased activity of the sweat glands is needed to regulate the rising temperature of the body due to the increased metabolism. The activity of the organs of perception—sight, hearing, smell—are heightened so that the nature and the source of the danger may with the greatest certainty and accuracy be appreciated. It could not be a mere coincidence that the organs and the tissues that are stimulated in the emotion of fear are precisely those that are actually utilized in the perception of danger and in a physical struggle for self-preservation which might follow. Among the organs inhibited are those that have mainly to do with digestion and procreation. Why are these functions inhibited? If an animal could dispense with his bulky digestive organs, whose functions are suspended by fear, if he could, so to speak, clear his decks for battle, it would be advantageous. Although the marvelous versatility of nature selection apparently could devise no means of affording this advantage, it turned off the nervous current to these organs and saved the vital force those *non-combatants* ordinarily consume in the performance of their functions. Whatever the origin of fear may be, its phenomena are apparently due to a *stimulation of all* the organs and tissues that add to the efficiency of a physical struggle for self-preservation through the motor mechanism and an *inhibition* of the function of the organs that do not participate—the non-combatants, so to speak. Fear arose from injury, and is one of the oldest and surely the strongest emotion. By the slow process of empyricism nature evolved the wonderful defensive motor mechanism of many animals and of man. Now the stimulation of this mechanism leading to a physical struggle is action; and the stimulation of this mechanism without action is emotion.

We may say that fear is a *phylogenetic fight or flight,* we fear not in our hearts alone, not in our brains alone, not in our viscera alone; fear influences every organ and tissue—each organ and tissue is stimulated or inhibited according to its use or hindrance in the physical struggle for existence. In thus playing all or most of the nerve force on the nerve muscular mechanism for defense alone, a greater physical power is developed. Hence, it is that animals under the stimulus of fear are able to perform preternatural feats of strength. Then, too, for the same reason the exhaustion following fear will be the greater, because the powerful stimulus of fear drains the cup of nervous energy, though no visible action may result. An animal under the stimulus of fear may be likened to an automobile with the clutch thrown out, but whose engine is racing at top speed. The gasoline is being used up, the machinery is being worn out, but the machine as a whole does not move, though the power of its engine may cause it to tremble.

Applying this conception to human beings of today, certain mysterious phenomena are at once cleared up. It must be borne in mind that man has not been presented with any new organs to meet the requirements of his present state of civilization—indeed not only does he possess the same type of organs as his savage fellows, but also the same type of organs possessed by even the lower animals. In fact the present status of civilization of man is now operated with the primary equipment of brutish organs. Contrasted with the entire duration of organic evolution, man has come down from his arboreal abode and resumed his new role of increased domination over the physical world but a moment ago. And now though sitting at his desk in command of a complicated machinery of civilization when he fears a business catastrophe it is in the terms of his ancestral physical battle in the struggle for existence. He can not fear intellectually, he can not fear dispassionately, he fears with all of his organs and the same organs are stimulated and the same organs are inhibited as if instead of its being a battle of credits, of position or of honor, it were a physical battle with teeth and claws. Whether the cause of acute fear is moral, financial, social, or stage fright, or purely physical, precisely the same phenomena are seen. The phenomena are those of physical exertion in self defense or escape. There is not one group of phenomena for the acute fear of the president of a bank in a financial crash; another for the trusted official who suddenly and unexpectedly faces the naked probability of the penitentiary or of a patient who unexpectedly finds he has a cancer, or of the hunter with an empty magazine and the grizzly still charging. Nature has

but one means of response and that means was acquired through vast periods of evolution during which our progenitors struggled with bare hands and naked bodies against wild beasts, and now whatever the cause of fear the phenomena are always the same—always physical.

From the foregoing and from other considerations in biology, in physiology and the clinic we are forced to conclude that man is as Sherrington has well said "a motor being." The mechanism that may be excited and which may become exhausted and later deranged in the course of a surgical operation is the motor mechanism. The particular part of the motor mechanism that is subject to exhaustion is the brain cell. An adequate stimulus of any receptor whether of the special senses or the receptors for pain impinges upon the brain cell and modifies it. Each time this occurs the brain cell responds by giving up a certain amount of its energy—that is to say—the sight of the operating room, the spoken word implying danger, the taking of the anesthetic and the instrumental injury of tissue in the course of operation and the pull of the stitches after the operation all are capable of stimulating the brain cells and thereby causing them to use up their energy giving substance. Excluding infection and hemorrhage one could conceive of no influence whatsoever aside from the point factors mentioned that plays any part in the production of surgical shock, post operative pain and later neurasthenia. Let us now picture the contact of a patient with his surgeon from the time of consultation until the patient is finally discharged. This contact may be divided into the following principal parts:

The first consultation, the period at the hospital up to the beginning of anesthesia, the anesthesia, the operation itself and the convalescence. At any one of these points of contact the patient may receive injury and consequent impairment to the brain cells. The want of tact in stating a diagnosis and recommending an operation may cause a very material mental shock; the lack of consideration of the patient after he enters the hospital up to the time that the anesthesia is begun may fill the patient with fear, hence injury to the brain cells; the kind of anesthesia and its method of administration may cause great excitement hence further damage to the brain cells; every contact during the operation initiates impulses which reach the brain cells and further impairs them; and finally inconsiderate nursing, rough dressings, and tactless contacts in the hospital during convalescence may add to the sum total of injury. The crucial question now arises and it is this—what can be done to minimize or fully abolish these several factors—first, it is only by experience and a sympathetic understanding of the sensibilities of patients that enables any surgeon at the time of diagnosis and recommendation of operation, to reduce to a minimum the first contact. The pre-operative stay in the hospital can be made least harmful by the highest degree of efficiency on the part of the nursing and resident staff of the hospital and by considerate attention to the details on the part of the operating surgeon, together with the administration of a small dose of morphia and scopalomine an hour and a half or two hours before the operation. As to the anesthetic there are three factors—the first is—entire quiet, the avoidance of everything suggesting the operation until the patient is unconscious; the second is—the use of the pleasant nitrous oxide anesthesia instead of the repulsive ether; and thirdly—the administration of the anesthesia by a trained anesthetist, preferably a woman. The post operative backache is wholly prevented by a warm water bed on the operating table and propping a patient up underneath after operation.

If the patient has received no damaging brain stimuli up to the point of the completion of anesthesia—the next question is—how can the damaging stimuli incident to the operation itself be prevented or minimized? It may be done by the use of novocaine infiltration throughout the entire field of operation as completely as if no general anesthetic was given. Under these circumstances the brain remains in a completely negative state during the entire operation and no damage has been done to the brain cells, hence, no surgical shock up to this point has been given.

The next point that arises is—how can we prevent the severe after pains so characteristic following abdominal operations—the so-called gas pains, distension, and rigidity of the abdomen? First let us consider the cause of this post-operative phenomena.

ON THE CAUSE AND THE PREVENTION OF POST-OPERATIVE GAS PAINS.

The phrase, post-operative gas pains is intended to include a definite group of phenomena following operations which involve the peri-

toneum. These phenomena are painful rumbling of gas in the intestines with inability to pass flatus associated with distensions and some rigidity. The gas tends rather to come up into the stomach and may be eructated. The patient —especially if a physician—is frequently under the impression that there is obstruction, either mechanical or paralytic. There is anorexias, sometimes nausea or vomiting and to a certain degree there is anxious facies. The abdominal pain and distension is in some cases distressing and is a strong rival of ether anesthesia as the most unpleasant memory of a major operation. So far as I am aware there has as yet been discovered no means of preventing it.

It is overcome measurably by enemata and as soon as there is a free movement it disappears. The suffering is mitigated by hot packs and opiates.

This annoying, baffling phenomena is associated only with operations that involve the peritoneum; but not every operation that involves the peritoneum is followed by it—incision and simple drainage of local abscesses, incision without suturing the peritoneum, especially immune are incisions into the peritoneum in vaginal punctures.

These, roughly speaking, are the types of operations that cause little or no gas pains. On the other hand the more nearly normal the peritoneum and the more healthy the individual the more marked is the gas pain. They follow most heriotomies, appendectomies, gastric, gall-bladder, pelvic, and many renal operations; very marked gas pains follow the cases in which a rough and persistent exploration is made.

On reflecting upon the origin and the nature of this interesting phenomenon, it seemed to me that it must be due to either an increase of an internal secretion like adrenalin that is known to arrest peristalsis, and which is, on the authority of Cannon, increased under the emotion of fear. If fear stimulates the secretions of adrenalin then we would expect it to be increased by injury as well.

If this were true then the administration of pituitary extract which actively stimulates peristalsis might prevent or mitigate it; then too if the gas phenomenon is due to inhibition by adrenalin this increase of adrenalin is due to fear or trauma, gas pain should appear after any operation on any part of the body and it should also follow fear experienced outside of the hospital. The latter produces no gas pains.

Finally if due to trauma and fear through the agency of adrenalin production due to the operation itself, then if an abdominal operation is performed without fear and under local as well as general anesthesia, there should be no gas pains; but operations thus performed showed as much gas pain as any other.

It then occurred to me to seek its origin in a general biologic law of adaptation, viz., that when the abdomen is penetrated, the phylogenetic association awakens the adaptive inhibition of the intestine so as to place the animal in the best state to overcome two types of dangers following perforations. These are escape of intestinal contents, and spread of infection. Loss of appetite and muscular rigidity, and even vomiting are also protective measures. Surgical procedures could have played no role in natural selection, and evolution does not recognize surgical operations. The one response that the abdomen can make is a purely biologic one, viz., penetrations of the abdomen by teeth or claws or by objects in the rough environment invariably means infection. The animal crawls off into a protected corner and accepts its fate, favored by the adaptive inhibitions of intestinal movements and food which help to localize the infection.

Now, my hypothesis of adaptive phenomena can be easily put to a direct test as follows: The patient is anesthetized as usual, but the entire line of incisions is carefully blocked with monocaine including the peritoneum. If then at the end of the internal operation and before the peritoneum is closed, there is applied around the entire line of stitches a complete block that will last a number of days, such as 50% alcohol or quinine urea and if in stitching the peritoneum every stitch is placed within this blocked zone then the afferent impulses caused by stitch irritation are blocked and hence can not excite this protective mechanism of intestinal inhibition. Well, on trial of this method it was found that such blocking does prevent post operative gas pains in all sorts of abdominal operations. This hypothesis is a part of the general principle of adaptation enunciated in the Ether Day Address.

In cases in which all these steps can be carried out to a high degree of perfection the patient will experience no shock, but trifling after pains, no backache, rarely nausea or vomiting,

no distension, but little disorder of functions, and above all, the patient will experience little or no feeling of nerve strain of excitement, will have no insomnia, and, as a result, will experience little or no nervous impairment either during the convalescence or afterward.

A patient managed in this manner will have had excluded the various harmful influences or associations which can be best designated by the word "Anoci-Association." This implies nocuous or harmful association. All the various factors which may injure the brain cells then are designated "anoci-associations." If then we so conduct the patient from beginning to end through his surgical contact that noci-associations are excluded this state is best described by coining a new word namely "Anoci-Association." By this word is meant—the exclusion from the patient of all the injurious or nocuous influences that may cause damage.

This paper is a very brief statement of a fundamental principle which was evolved through years of clinical and experimental investigation. The entire work will I hope be published next year, but the final question is, does it work clinically? I have the strong conviction that the final verdict upon any hypothesis, any experimental research is the verdict of the clinic. The principle here enunciated has been tested in a series of over 2,000 operations by myself. This includes surgical risks of every description both private and ward patients in the Lakeside Hospital. The mortality rate which includes death from any cause in the hospital is 2.1%.

In the last 1,000 the rate has fallen to 1.8%.

But the most striking result is the almost incredible state of preservation of the patients' nervous equilibrium, and the extent of absence of post operative discomfort.

There is no post operative nausea or vomiting except that due to the disease or the mechanics of the operation; no backaches; little or no gas pains or distension; the pulse rate is never increased during the operation, not even in severe cases of Graves' disease, and excepting in Graves' disease the pulse rate after the operation rarely shows a post operative rise. The skin wound is protected from the irritation of the dressings by using a sterilized wire screen as a protection over it; the use of the stomach tube is almost unknown; the recovery room is no longer required, the patient going back immediately to the bed he came from, the work of the nurse is greatly minimized and above all more than 90% of patients thus operated have no unpleasant recollection of the day of their operation. These statements may well excite incredulity, but happily the demonstration is easily made and when witnessed the results speak for themselves.

Summarizing we may say: That many diseases act upon the brain cells injuriously. Fear and trauma act in a similar manner. Thus may the margin of safety in a surgical case be reduced. The conservation of this margin of safety is our problem. If fear be excluded and if the nerve paths between the field of operation and the brain be blocked with novocain there will be no discharge of energy due to the operation; hence, there can be no shock, no exhaustion. Under these conditions of operation the nervous system is protected against noci-association whether by noci-perception or by an adequate stimulation of noci-ceptors. The state of the patient, in whom all noci-associations are excluded can be described only by coining a new word. That word is "anoci-association."

The difference between anesthesia and anoci-association is, that although inhalation anesthesia confers the beneficent loss of consciousness and freedom from pain, it does not prevent the nerve impulses from reaching and influencing the brain, and hence does not prevent surgical shock nor the train of later nervous impairments, so well described by Mumford. Anoci-association excludes fear, pain, shock and post-operative neuroses. Anoci-association is accomplished by a combination of special management of patients (applied psychology) morphin and scopolamin inhalation anesthesia, and local anesthesia.

The work now being done in the Southern States for the elimination of hookworm disease will be an even greater demonstration of the economic value of modern medical science, when practically applied. "Thus," rightfully says the *Journal of the American Medical Association*, August 26, 1911, page 748, "the results of restoring to health ten thousand men and women, cannot fail to be apparent in all branches of industry, commerce and society in the affected region. The extermination of the hookworm means a new South of commercial and manufacturing importance hitherto undreamed of.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. Tinkham, M. D.,
B. H. Stone, M. D., } .....Editors.

COLLABORATORS.

D. C. Hawley, M. D., Burlington, Vt.
S. C. Gordon, M. D., Portland, Me.
J. N. Jenne, M. D., Burlington, Vt.
J. B. Wheeler, M. D., Burlington, Vt.
C. S. Caverly, M. D, Rutland, Vt.
A. F. King. M. D., Portland, Me.
A. G. Wilding, M. D., Malone, N. Y.
M. B. Hodskins, M. D., Palmer, Mass.

Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

Burlington, Vt., November 15, 1911.

EDITORIAL.

The 98th annual meeting of the Vermont State Medical Society was extremely successful, the attendance being large, the program complete, and the character of the papers unusually high. The influence of the State Society can hardly be overestimated and no physician in the state can afford to lose the stimulus obtained by an attendance at the annual meetings. The medical organizations have come to be a power in the country, the state and county, and however much anyone may disagree with some of the actions of the central organization or any of its component parts, such disagreement should be settled from within. We do not say this as indicating that there is any serious disaffection but we have no doubt that there is some dissatisfaction in the action which our society has taken on matters of contract practice and mal-practice defence. We have been told that certain members of certain county societies have expressed themselves as about ready to sacrifice their membership. This is a wrong attitude. Those members have no reason to complain of any action which the society has taken in their absence as it is clearly their duty to be present and express their opinion in the legislative body. The society organization will undoubtedly go on and continue to flourish as is evidenced by the success of the last meeting and those physicians who discontinue their membership because of disapproval of some action of the society are only injuring themselves and have forfeited the only means of remedying such action.

The recent deaths from cyanide poisoning bring to mind the ease with which death and habit-producing drugs may be procured. There have been many legislative efforts in different states to remedy this evil, but many fail owing to lack of conscientious cooperation on the part of those who are intimately concerned. A prominent medical teacher in a lay journal has recently called attention to the widespread prevalence of the opium habit among those who are innocent beginners. There is a great tendency to lay the blame at the door of the physician and while he may be responsible in some cases for the bondage of the unfortunates, it hardly seems fair to make him the general scapegoat.

A physician gives an opium preparation and as it is the only efficient drug in pain of organic nature, it is obvious that it is indispensable to the practitioner. It is not, however, from the single prescription that the habit is formed but from repeaters which in the vast majority of cases, are obtained without the physician's consent. Morphine is universally known as a habit producing drug, but the less known opium derivatives are often taken over a long period with a feeling of perfect safety. It was only recently that the writer overheard an argument between a rural visitor to a city and a green drug clerk, over the price of a hundred codeine tablets. The pure food law has done much to

protect the innocent taker of various patent medicines, and the self doser has only himself to blame if he finds that he is caught in the net. Preventive medicine has done so much for the conservation of public health, it might well be applied to this menace to mental and physical force.

NEWS ITEMS.

The following officers have been elected to the Addison County Medical Society: President, Dr. G. F. B. Willard; vice-president, Dr. R. W. Prentiss; secretary and treasurer, Dr. E. H. Martin; librarian, M. H. Eddy, M. D.; delegate to state society, Dr. F. G. Edmunds.

Dr. E. L. Chapman, University of Vermont College of Medicine, 1910, has opened an office in Dover, N. H.

Dr. D. C. Wiggin has resigned from army service and opened an office in Concord, N. H.

Dr. W. G. Cain, who has been practicing for some years in Epping, N. H., is now located in Nashua, N. H.

Dr. J. L. Belknap, for the past three years assistant president of physicians at the Massachusetts General Hospital, has started to practice at Attleboro, N. H.

Dr. Harold A. Johnson of Lynn, Mass., has sued an electrical engineer of that city for $30,000 for the alienation of his wife's affections. (Boston daily).

Dr. Carl Crissand, who practiced in Worcester, Mass., for twenty-five years, was found dead in bed September 30th. He graduated from the New York Homeopathic Medical College in 1884. He was president of the Worcester Oratorio Society.

The Boston Dispensary, a hospital for children, has closed while awaiting the construction of its new building at Ash and Bennet streets. This dispensary has taken over the work done by the Tyler Street Day Nursery, which was established in 1888.

William R. Taylor, M. D., plead guilty in the Federal Court in New York City for fraudulent use of the mails and was sentenced to a year in the penitentiary at Blackwell's Island recently. He has been running the Universal Medical Institute for two or three years and making false promises to cure. His dupes were ignorant Poles, Slavs and other foreigners.

The Massachusetts Osteopathic Society has voted to go to the legislature of that state and appeal the appropriation of state funds for hospitals of one school of medicine. They hope to have the aid of the Eclectic and Homeopathic Medical Societies in their efforts. The Osteopathic Association voted to appoint a committee to incorporate a state osteopathic hospital.

The Massachusetts Supreme Court has just decided against a farmer who had milk in his possession that was below the standard established by statute. The farmer offered this milk for sale and that milk might be considered commercially pure or even normal although lacking the full statutory requirement. All this evidence the court decided to be not admissible.

Dr. L. A. Heidel and Miss Theresa M. Tockey (a teacher) both of Rutland, were married at Newport, N. Y., October 18th.

In the Dorchester, Massachusetts, Court last week a dealer from Neponset, Mass., was fined $50 on each of four charges of keeping watered milk for sale.

It is reported that diphtheria prevails almost to epidemic extent in Indianapolis. Moving picture shows and similar places of amusement have been counseled not to admit children and parents have been requested by the health authorities to keep at home all children under 16 years of age.

Dr. W. G. Ricker, formerly of Wells River, is now located in St. Johnsbury, and will in future confine his practice to the eye, ear, nose and throat.

Inflamed by the sanitary precautions against cholera, a mob of three hundred of the inhabitants of the town of Segmi, Italy, marched upon the town hall demanding the release of the detained patients. After sacking and burning the building, they turned their attention to the lazaretto from which they removed the cholera patients, carrying them to their homes on the shoulders of the mob. It was necessary to call out the troops to establish order.

The Department of Tropical Medicine of the New York Post-Graduate Medical School is organizing an expedition to investigate pellagra in the southern states. The work will start in the spring and is made possible by the gift to the institution for this purpose of $15,000.00 by Col. Robt. M. Thompson and Mr. J. H. McFadden.

New laboratories, completely equipped for post-graduate medical instruction and research, have been organized and opened at the New York Post-Graduate Medical School and Hospital. The director is Jonathan Wright, M. D., and the staff includes: Tropical Medicine, in collaboration with the medical departments of the Army and Navy: James N. Phalen, M. D., Capt. Med. Corps, U. S. A., Francis M. Shook, M. D., P. A. Surg., U. S. N.; Bacteriology: Ward J. MacNeal, Ph. D., M. D., Richard M. Taylor, M. D.; Pathology: Ward J. MacNeal, Ph. D., M. D., Oliver S. Hillman, M. D.; Biochemistry: Victor C. Meyers, Ph. D., Morris S. Fine, Ph. D.

The governors of the New York Skin and Cancer Hospital, Second Avenue, corner 19th St., announce that Dr. L. Duncan Bulkley will give a thirteenth series of clinical lectures on Disease of the Skin in the out-patient hall of the hospital on Wednesday afternoons, from November 1st to December 20th, 1911, at 4.15 o'clock. The course will be free to the medical profession. Charles C. Marshall, chairman of executive committee.

The following reprints have been received and are hereby acknowledged: Smallpox in the United States, by John W. Trask; The Salient Epidermilogical Features of Pellagra, by C. H. Lavinder; Five Illustrative Cases of Primary Melanosarcoma of the Choroid, by J. H. Woodward, B. S., M. D.; Anaphylaxis in Its Relation to Pediatrics, by Godfrey R. Pisek, M. D. and Marshall C. Pease, M. D.; The Diagnosis of Some Uncommon Intraabdominal Conditions in Early Life, by Godfrey R. Pisek, M. D.; Some Investigations Concerning the Relation Between Carpal Ossification and Physical and Mental Development, by Eli Long, M. D., and E. W. Caldwell, M. D.

OBITUARY.

Dr. Merlin F. Blodgett of East Corinth, formerly of Groton, Vt., while on his way to Bradford, in his automobile, was accidently shot in his automobile by his own gun. A charge of bird shot entered the neck just below the ear and death must have been instantaneous. Dr. Blodgett had been in Corinth only a few years and was twenty-eight years of age.

Dr. George S. Albee of Worcester, Mass., died Oct. 21. He was born in Westmoreland, N. H., in 1830, and was a graduate of the Jefferson Medical College.

Dr. William H. Rockwell, for the last sixteen years a resident of Nutley, N. J., died at his home on Passaic avenue, Oct. 20th. He was seventy-one years old. Dr. Rockwell was a native of Brattleboro, and for many years was superintendent of the Vermont State Asylum for the Insane. In recent years he had been in business in New York City.

MINUTES OF THE NINETY-EIGHTH ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY, HELD AT BURLINGTON, OCTOBER 12-13, 1911.

THURSDAY, OCTOBER 12.

FORENOON SESSION.

The first session of the Society was held at the Medical College and was called to order by the President, Dr. H. C. Tinkham of Burlington, at 11 a. m.

Rev. E. G. Guthrie, the Chaplain, offered prayer, followed by the address of welcome by Hon. Robert Roberts, Mayor of Burlington.

The reading of the records by Secretary C. H. Beecher was called for, but on motion of Dr. H. D. Holton of Brattleboro, the records as printed were adopted.

Dr. F. E. Clark gave the report of the Committee on Arrangements.

Dr. C. H. Beecher read his report as Secretary, which on motion of Dr. W. L. Havens, seconded by Dr. C. W. Peck of Brandon, was adopted subject to such corrections as might be necessary after receiving the returns from the county societies.

Dr. B. H. Stone submitted his report as Treasurer, action on which was suspended until the report of the Auditor had been given, the Auditor being absent from this session.

The report of the Executive Committee was read by the Secretary and on motion of Dr. J. D. Tanner was adopted.

The report of the Publication Committee was read by the Secretary, and on motion of Dr. H. R. Watkins was accepted.

The report of the Legislation Committee was read by the Secretary, and on motion of Dr. F. W. Sears was adopted.

The report of the Committee on Medical Education was read by Dr. W. L. Havens, and on motion of Dr. J. M. Hamilton, was accepted.

Owing to the absence of Dr. E. H. Martin, the chairman of the Necrology Committee, no report was given.

Dr. J. N. Jenne read the report of the Medico-Legal Committee, which on motion of Dr. J. M. Hamilton was accepted and referred to the House of Delegates.

The report of Dr. M. P. Stanley as a delegate to the Maine State Medical Society was read by Secretary C. H. Beecher, and the motion of Dr. F. W. Sears being seconded, the report was accepted and placed on file.

The report of Dr. W. N. Bryant as a delegate to the Connecticut River Valley Association was read by Secretary C. H. Beecher, and the motion of Dr. A. H. Bellerose being seconded, was accepted and placed on file.

Dr. Powers F. Canedy of Greenfield, Mass., representing the Massachusetts State Medical Society, was called on and extended the greetings of that Society to the Vermont State Medical Society.

Dr. W. D. Williamson, the representative of the Maine State Medical Society, was called upon and made appropriate remarks.

PRAYER BY THE CHAPLAIN, REV. ERNEST GRAHAM GUTHRIE.

Almighty God, our Father, thou art the creator and preserver of all mankind and we bless thee for our creation and for the loving care which thou hast always given to our preservation. We bless thee that thou hast made us to be immortal souls, to be dwellers in the tabernacle of the Lord, and we bless thee for all that has come to us by way of joy and knowledge—for the light that strikes the eye, and the hearing that comes to the ear, and for all the senses of life and vigorous action that we know because we are dwellers in the Lord. Thou art the Great Enemy of pestilence and disease. Thou art sending thy messengers to turn the plague away from thy people. Thou sent thy Son to be a physician of the souls and bodies of men, and we would here recognize that it is by that sending that we are here assembled as much as when we are assembled in the councils of thy church, and it is by the leading of thy spirit that we are to learn to overcome the enemies of the body as we are to overcome the enemies of the soul.

Upon this Society pour out a double portion of thy spirit that they may feel the joy of knowing that which is work for man through man, and that they are grown, through thy spiritual equipment, fit for service. Give us reverence and unselfish desire for service and grace by which we may perform and minister to others. Grant us, in all our life and labor the love as manifest in thy Son, so that we may merit thy benediction, "Well done thou good and faithful servant." In the name of Christ our Lord, we ask it. Amen.

ADDRESS OF WELCOME, HON. ROBERT ROBERTS.

Mr. President and Members of the Vermont State Medical Society:

This is the second time at this season of the falling leaf that I have been called upon to welcome to the city a body of physicians. I don't mean to intimate that there is any relation between the dying year and other evidences of mortality, and the advent of the doctors—it just so happened. The first meeting was that of the Health Board. They told us to swat the fly and mosquito and hunt the rat and filter the water that we put in the milk cans, and inoculate ourselves with things and swallow a number of bacilli, and hunt out some other kinds of bacilli, and then there would be no disease—that we would simply fall asleep, but here I am confronted by the body of men whose business it is to cure disease. I don't know whether that is due to skepticism on the part of the propaganda of the Health Board or whether it is due to some hope, (inasmuch as you have to support your families), that there may be some bacilli that have escaped Dr. Holton that will need your attention.

A fact is very difficult of comprehension, and illusive, and I am told by the doctors that a medical fact is the most illusive of all. I heard the late President Buckham say at a church meeting where they were proposing to change the creed, (of course it was not agreed as to what the new creed should be) that he thought that after two thousand years of Christianity a company of sensible men might agree on some common basis of faith. They were good folks, but couldn't quite agree, excepting to say the Lord's Prayer, and they have not come to any agreement yet. To us laymen it seems that there ought to be some fact in medicine that the doctors will admit, that is, that they know and will occasionally tell us. For instance, something that can cure a cold in the head or a corn. But I do not understand from the doctors that in the matter of diagnosis there is generally accepted to-day an agreement between physicians who have good standing, or that the autopsy verifies the diagnosis. We want to know what we die of. I suppose that our unfortunate friends, who in whole or in part, may be watching us from the neighboring ice-boxes, have contributed very largely to this ability of physicians to determine the nature of disease or of specific matter.

Of course there is no sense in this address of welcome, anyhow, and I don't wish to treat the occasion with any frivolity because you know that yours is the most useful and honorable profession, and I can wish you nothing better than to elucidate some fact of importance to the race, by your discussions, and also that you may have a social outing that will make you feel better when you go home and glad to come again.

THURSDAY—AFTERNOON SESSION.

The second session of the Society was called to order by the President at 2 p. m.

The Vice-President's Annual Address, entitled "Neuralgia" was given by Dr. S. W. Paige of St. Albans. It was discussed by Doctors Bidwell of Waterbury, Peck of Brandon, Haskell of Connecticut, and Holton of Brattleboro.

A paper on "Radiculitis" was presented by Dr. A. H. Bellerose of Rutland. This paper was discussed by Dr. Haskell.

As Dr. W. Gilman Thompson, who was to give the next paper, was unavoidably absent, on vote of the Society, the program was changed and Dr. Melville's paper, which was down for Friday morning, was next given. Dr. Melville's paper was entitled "Treatment of Injuries of the Abdomen." This paper was discussed by Dr. Lyman Allen.

A paper on "Spinal Anesthesia" by Dr. J. M. Allen of St. Johnsbury was read by Dr. Farmer. Dr. Farmer discussed the paper.

The last paper of the afternoon was given by Dr. M. B. Hodskins of Palmer, Mass. The title was "Acute Poliomyelitis." This paper was discussed by Doctors Caverly, Sears, Ball, Haskell, Holton and Willard. On motion of Dr. M. R. Crain of Rutland, seconded by Dr. Beecher, a vote of thanks was tendered Dr. Hodskins by the Society and he was made an honorary member. The meeting then adjourned until Friday morning at 9 o'clock.

A reception was held on the roof garden of the Hotel Vermont from 4 to 7 o'clock. While primarily for the ladies, many of the members availed themselves of the invitation to be present.

The first meeting of the House of Delegates was held at 5 p. m. Thursday afternoon.

The Annual Banquet was held Thursday evening at 8 o'clock at the Hotel Vermont. There were about two hundred present. Dr. S. W. Hammond of Rutland was Anniversary Chairman.

After the banquet an informal dance was held on the roof garden.

FRIDAY.

FORENOON SESSION.

The meeting was called to order at 9 o'clock by the President.

The report of the House of Delegates was presented by the Secretary of the House of Delegates, Dr. Lyman Allen.

The President then introduced Dr. C. H. Haskell of New Haven, Conn., as the delegate from the Connecticut State Medical Society. Dr. Haskell responded pleasantly for the Connecticut State Society.

Dr. Bullard of Westerly, R. I., was introduced as the delegate from the Rhode Island State Medical Society. Dr. Bullard brought greetings from that Society.

On motion of Dr. Havens, the Society voted to change the order of the program so that Dr. Albee's paper should be given at the afternoon session and the President's Annual Address be placed last on the forenoon program.

The first paper of the morning session was "The Study of 350 cases of Pulmonary Tuberculosis at the Vermont Sanatorium" by W. C. Klotz. This paper was discussed by Doctors Bryant, L. H. Ross, Holton, Caverly, Scofield, Peck, Jenne, McGuire, Briggs, and Hamilton.

On motion of Dr. Caverly the Society voted to urge the Special Commission on Tuberculosis, created at the last Legislature, to use every legitimate means to secure from the next Legislature the proper appropriation to establish a place to take care of advanced tuberculosis cases.

On motion of Dr. W. L. Havens of Chester, the Society adopted the following resolution on the death of Dr. S. E. Maynard.

RESOLUTION.

Resolved: That while the members of the Vermont State Medical Society bow in grief over the early death of big-bodied, big-brained, big-hearted and big-souled, Samuel Erskine Maynard, for many years an active and efficient co-worker, they are supported by an unfaltering trust that all the tender ties of affection developed through days and decades of personal contact and professional intercourse were not weakened when his heart-beat lessened, were not broken when his heart-beat stopped, and are sustained by an unfaltering belief that a personality so pleasing, character so rugged, friendship so loyal and skill so rare will long continue to exert a beneficent influence over the lives of the many men and women and children of this north country who looked up to him as a doctor and loved him as a friend.

A paper on "Diagnosis of Renal Tuberculosis" was read by Dr. Townsend of Rutland. This paper was discussed by Doctors Eddy and Woodruff.

A paper on Cancer of the Rectum was read by Dr. D. C. Hawley of Burlington.

With Dr. Beecher presiding, the President's Annual Address on "What Standard of Efficiency Should be Required of Physicians in Order to Guarantee the Best Medical Service to the Public and How Should that Standard be Determined?" was read by Dr. H. C. Tinkham of Burlington. This paper was discussed by Doctors Havens and Albee. The motion was made and carried that a further discussion of the President's paper be postponed until the afternoon session. The session then adjourned.

An address to the ladies was given by Prof. Bertha M. Terrill of the University of Vermont on "Hygiene of the Home," at the Klifa Club, at 11.30 o'clock. A luncheon was served at one o'clock and an enjoyable time was reported by the ladies present.

Through the courtesy of the Burlington and Chittenden County Clinical Society the members and guests were given a buffet luncheon in the smoking room of the Medical College. About 125 were served.

AFTERNOON SESSION.

The afternoon session of the Society was called to order in Morrill Hall by the President at 2 p. m.

The first paper of the afternoon was by Dr. F. H. Albee of New York City, on "Bone Transplantation and Osteoplasty in Pott's Disease of the Spine." This paper was discussed by Doctors Bellerose, Johnson and Sabin.

The last paper of the meeting was the First Annual Address under the Trust Fund which became available this year. This address was given by Dr. G. W. Crile of Cleveland on "Anoci-Association—A New Principle in Operative Surgery." Both this paper and the previous one were illustrated by the use of the stereopticon.

On motion of Dr. Bryant, both Dr. Albee and Dr. Crile were elected honorary members of the Vermont State Medical Society.

The meeting adjourned.

SECRETARY'S REPORT.

To the Members of the Vermont State Medical Society:

I take pleasure in presenting to you this my fourth annual report. The membership of the State Society is divided among the component County Societies as follows:

Addison	22
Bennington	10
Caledonia	30
Chittenden	62
Franklin	32
Lamoille	13
Orleans	19
Rutland	60
Washington	41
Windham	35
Windsor	12
Making the total membership of the State Society	336

There have been 6 deaths, 2 resignations, and 61 have been dropped for non-payment of dues, making a total loss of 69 members.

There have been added 11 new members, making a net loss of 58 members.

I recommended two years ago that the offices of Secretary and Treasurer in the County Societies be held by one member. A resolution to that effect was adopted by the House of Delegates and all but one of the County Societies now have the same member holding both offices. I hope the Washington County Society will soon realize that the advantages of this plan more than make up for its disadvantages, and make the desired change.

I would like to suggest that there be some regulation adopted by the House of Delegates relative to the character of our Exhibits.

I have received a number of letters about the Contract Practice Resolution, many finding fault with the regulation of it.

The officers of the Society voted to ask Dr. G. W. Crile, Professor of Surgery at Western Reserve University, to deliver the first Annual Address under the Trust Fund. Dr. Crile accepted the invitation and will be present at this meeting.

I believe the State Society should own its Journal and I have had several talks with the owners and publishers of the VERMONT MEDICAL MONTHLY. The Journal could be taken over by the Society at, I believe, a reasonable figure and could be made at least to pay its own way. We could then control the advertising in the Journal as we should.

Respectfully submitted,

C. H. BEECHER, Sec'y.

REPORT OF TREASURER OF THE VERMONT STATE MEDICAL SOCIETY.

Balance on hand Oct. 10, 1910		$ 853 88
Received from county societies		1,340 00
Interest on deposit		8 00
		$2,201 88
Rebate Bennington Society	$ 2 00	
Treasurer's expenses, State Society.	3 42	
H. L. Thomson, running lantern	9 61	
N. L. Johns, stenographic work for C. H. Beecher, Secretary	37 50	
L. N. Converse, stenographic work for C. H. Beecher, Secretary	2 25	
Lillian E. Peck, reporting State Society meeting	27 00	
Lane Press, printing for C. H. Beecher, Secretary	71 25	
Dr. C. H. Beecher, salary and expenses for 1910-11	141 40	
Burlington Medical Pub. Co.	400 00	
Dr. G. C. Berkley, expenses of St. Albans meeting	65 00	
Dr. E. A. Hyatt, expenses of Medico-legal meeting	26 07	
W. R. Austin, retainer as counsel	50 00	
B. J. Derby, postage	1 00	
Dr. C. H. Beecher, postage and stenographic work	56 00	
Balance on hand, Oct. 12, 1911	1,309 38	
		$2,201 88

B. H. STONE, Treasurer.

Audited and approved.

A. M. NORTON, Auditor.

REPORT OF EXECUTIVE COMMITTEE.

To the Members of the Vermont State Medical Society:

Your Executive Committee respectfully report that Drs. C. A. Pease, F. E. Clark and T. S. Brown were appointed the Local Committee of Arrangements for the 1911 session of the Vermont State Medical Society.

Respectfully submitted,

H. C. TINKHAM,
C. K. JOHNSON,
C. H. BEECHER.

REPORT OF PUBLICATION COMMITTEE.

To the Members of the Vermont State Medical Society:

The arrangements for the publication of the "Transactions" being left with us, we felt that as the plan of previous years had been satisfactory we had best continue it, and have so done.

The "Transactions" have been printed in installments in the VERMONT MEDICAL MONTHLY, and then bound in one volume and a copy sent to each member who has requested one. The Society has paid the VERMONT MEDICAL MONTHLY four hundred dollars for their work.

We believe this has again given general satisfaction, and recommend its continuance unless the Society takes over the Journal.

Signed by the Committee.

(Signed) C. H. BEECHER,
F. E. FARMER,
DAVID MARVIN.

REPORT OF COMMITTEE OF STATE MEDICAL SOCIETY ON MEDICAL LEGISLATION.

Mr. President and Gentlemen of the Society:

Your committee appointed to consider the outlook of medical legislation for the past year have the pleasure to report that it is on the whole encouraging—possibly more so than in previous years. It must, however, be admitted that the encouragement in some instances lies more in the *attempt to do* than in results actually accomplished. This shows nevertheless the trend of public thought and gives good ground for hope in the future.

As usual our own State is well in the front rank in matters pertaining to public health. In some ways we are conservative, but in these things Ver-

mont has ever had a record to which we may justly "point with pride."

During the last legislative session the following bills and resolutions relating to public health were introduced, and the fact that they were introduced shows that our people are alive to the latest developments of sanitary and hygienic needs.

A bill providing for the inspection of public and private schools: Relating to the suitable inspection of sanatoria for tuberculosis: For the establishment of a commission to investigate and report regarding the numbers of cases of advanced tuberculosis disease in the State and the building of a hospital for the same: To provide for the surgical treatment of poor persons: Relating to the pollution of waters: Providing for the registration of professional nurses: Providing for the care and education of defective children: For the prevention of blindness at State expense—by prophylactic use of silver solution in the eyes of the new born: Relating to the abatement of nuisances and the appointment of health officers. This keeps the appointing power in the hands of the State Board of Health, where it rightfully belongs. A most determined effort was made to relegate this power to the selectmen of towns. Failing in this, several cities continued the fight under the guise of amendments of their charters, none of which were successful.

A bill was introduced for the more efficient inspection of slaughtered animals to be used for food, which failed of passing. This bill in its intent was most beneficient and only failed because of the practical difficulties of carrying out its provisions which it is hoped in the near future will be overcome.

The same may be said of a bill for the report of all cases of venereal disease. The unquestionable merits of this bill were strongly urged by its friends and backed up by unanswerable arguments, but the feeling of the Committee was that at present public opinion would not admit of the carrying out of its provisions, great as is the need of just this legislation—it is bound to come.

A joint resolution was introduced asking Congress to pass the bill relating to the establishment of a department of Public Health. This stirred up a veritable hornets' nest and at the public hearing lawyers from all over the State, together with spellbinders from as far away as Ohio, representing all the different cults of irregular practitioners and the patent medicine interests, were present. The resolution was never reported from the Committee, as it was evident that it would be useless. This is a most worthy measure, although there are some objections to the so-called "Owens bill," and beyond doubt some kind of action will *sometime* be taken along that line. Just when it is not possible to forecast, as the "powers of darkness" opposed to the bill are fighting for their lives and will not easily give way to the inevitable, but "The mills of the gods grind slowly though they grind exceeding small," and truth is bound to triumph.

(Signed) W. N. Bryant,
C. S. Scofield,
S. E. Darling.

REPORT OF COMMITTEE ON MEDICAL EDUCATION.

Your Committee offers the following report, culled from articles published in the educational number of "*The Journal*" of the American Medical Association of August 19, 1911.

Comparison of medical education in the United States twenty years ago with what it is today is wholly favorable to the present. The period has witnessed a reform that is noteworthy in history. During the past decade there has been a steady decrease in the number of inferior medical schools and an elevation of standards in the better schools. The country has passed from a stage in which the proprietary medical school was dominant to one in which all, or nearly all, of the better medical schools are medical departments of universities. The success of the better medical schools, the enthusiasm of the students trained in them, the opportunities which have opened to these students after graduation have contributed to spur other medical schools to emulate the example set, so that there is noticeable improvement in all medical schools. Since June 30, 1910, 13 colleges have either suspended or merged into others, leaving 120 medical colleges still existing. During the past seven years, 64 medical colleges have ceased to exist and 13 new ones have been organized, leaving a net decrease of 46. The total number of colleges is smaller, the percentage of higher grade medical colleges has been increased. Of the 120 medical colleges now existing over 80 per cent. claim to require from 31 to 36 weeks of actual work each year. In the year 1904 only 42 per cent. of the colleges then existing required that amount of yearly work. There were no colleges this year which reported sessions shorter than 27 weeks, whereas in 1901 there were 58. The total number of medical students in the United States for the year ending June 30, 1911, was 19,786, a decrease of 8,356 from the total of 1904. The total number of graduates for the year ending June 30, 1911, was 4,275, a decrease of 1,474 from the number graduating in 1904. Of the 4,275 medical graduates of 1911, 16.5 per cent. were reported to hold degrees in Arts or Science, as compared with 15.3 per cent. in 1910. It is expected that the future percentage of college graduates entering medicine will increase, since more medical schools are requiring college work for admission.

Another important feature of the year is the large amount of money given for medical education. The amount probably exceeds the gifts of any previous year, and insures even greater development for medical education in the immediate future.

Vermont is doing her share to elevate the standard of medical culture within her borders. The University of Vermont College of Medicine, well located, well housed and well equipped, with a teaching force of 54 earnest, intelligent men and a student enrollment of 186, offers excellent facilities for her young men to study medicine at home. Vermont State, County and City Medical Societies are bringing physicians together yearly, quarterly and monthly in an atmosphere of friendship for amicable discussion of vital medical questions, for diffusion of medical knowledge and for united effort to raise the standard of medical education in the Commonwealth. The spirit of medical progress which is rife in Vermont today, the spirit animating her sister States, the spirit of the whole civilized world, is the spirit of the age in which we live and labor.

Respectfully submitted,

(Signed) W. N. Bryant,
Walter L. Havens.
H. H. Swift.

MEDICO-LEGAL COMMITTEE'S REPORT.

To the House of Delegates of the Vermont State Medical Society:

In compliance with the provisions of the Constitution and By-Laws of your Society, I have the honor of submitting herewith the report of the Medico-Legal Committee.

Your Committee held a meeting for organization at St. Albans, immediately following their election. The undersigned was elected President, and Dr. Hyatt of St. Albans, Vt., was elected Secretary.

On February 1 the Committee met at Burlington with view to selecting an attorney to represent the Committee and promulgating the circular letter defining the object and purpose of the Committee as well as its limitations, a copy of which circular letter has been sent through mail to each member of the Society, and one is attached hereto.

However, it gives your Committee much pleasure to report that no notice has been received by said Committee of a suit being brought for mal-practice against any member of this Society during the current year.

As reported in the circular letter, the Hon. Warren A. Austin of St. Albans, Vt., was elected as attorney, and he has given your Committee much valuable aid in formulating the circular letter above referred to and gathering information respecting the experiences of other similar organizations, both as regards the rights and limitations of the Committee, as well as the experience and cost.

Your Committee at the present moment are unable to give more detailed information respecting these matters, as their work is still incomplete, but expect to be in a position to report at our next Annual Meeting something more definite in the matter.

Your Committee deem it a matter of special cause for congratulation that no action has been brought within the State, so far as they have knowledge, against any physician, a member of this Society, for civil mal-practice within the current year.

Respectfully submitted,

(Signed) J. N. Jenne, Chairman,
E. A. Hyatt,
Wm. Lindsay.

REMARKS OF DR. J. N. JENNE RELATING TO THE REPORT OF THE MEDICO-LEGAL COMMITTEE.

In 1813 the Society was chartered as the "Vermont Medical Society." There was no subsequent act authorizing our power or other power used by the Vermont Medical Society. When we reorganized a few years ago the Society overlooked the fact that it was a chartered organization, and we then styled ourselves as the "Vermont State Medical Society." There is no change in the charter, and no acts of the legislature except indirectly. Certain acts passed by the State Board of Health referred to our Society as the Vermont State Medical Society, but there is no charter for any such society in existence.

We may be called upon to levy a tax not to exceed $3 per member per annum, and to receive and determine questions referred to us by county societies. It would appear that this Society has no authority, under its charter, to raise money to exceed $3 per member per annum for any purpose, and it does not provide anything for legal defence. Our attorney informs us that it is desirable, and suggests that we go to the legislature for a new charter fully giving us that power. In the House of Delegates today this matter will be presented, and our attorney will be present and tell us what we may do and what we may not do, and what order of procedure it is best to adopt, in having a new constitution and by-laws.

REPORT OF COMMITTEE ON ARRANGEMENTS.

Dr. F. E. Clark.

The Committee on Arrangements began their work very early, more especially to secure and facilitate plans whereby we might entertain you in a manner that would be pleasing. I think I might apologize, for nearly all the members of the committee were green at this business, so if we have made some mistakes we ask your forbearance and trust that there will be enough to entertain you that will be pleasant.

We have selected a large number of exhibits and trust that you will pay some attention to these exhibitions that are held at the other end of the hall. I think we have some sixteen or seventeen different ones.

We have chosen the Hotel Vermont as our headquarters and will have our banquet there this evening. We have changed the usual program of having an evening session and are having our banquet as an annual dinner, and it will be served sharply at eight o'clock. A feature of the banquet is the introduction of the toasts between the several courses. I speak of this so that those of you who have toasts will make them short and right to the point. Following the banquet we have arranged for those who desire, an hour or two of dancing on the roof garden.

Tomorrow, through the courtesy of the Burlington and Chittenden County Clinical Society, we serve a lunch in the room below for the members of the Society. I mention this for the reason that trains go early in the afternoon. This lunch is free.

We have not, this year, bought a lot of pins or buttons, for it seemed to the committee that it was a foolish waste of money. If anyone is disappointed because we haven't purchased any I would say that there was about a peck left over from one or two years ago. We have bought badges for the officers and committees of the Society, thinking you might not know them unless you saw them tagged.

The ladies' committee has arranged a reception for the ladies on the roof garden of the Hotel Vermont this afternoon from four to six o'clock, and all the ladies are expected to go and the gentlemen are invited, also.

Tomorrow, at 11.30, at the Klifa Club there will be a lecture by Miss Terrill, which will be followed by a luncheon.

The committee have selected ladies of the city to help them receive and entertain. We couldn't ask all the ladies to do that, but we do extend an invitation to every woman from out of town as well as to all in town. We trust that no one will feel slighted. All the physicians are invited to the Klifa Club tomorrow morning.

The committee did not feel it was wise to provide automobile rides, not being sure of the kind of weather, but have provided instead this entertainment for the ladies at the Klifa Club and the buffet lunch. If anyone would like to ride about town we will provide an automobile for you, although it is not on the program.

It didn't seem necessary for the committee to provide rooms or lodgings, as there is ample space in the hotels.

In closing I might say that the cars run every twenty minutes between the Medical College and the hotels, so there is ample accommodation.

REPORT OF THE COMMITTEE ON NECROLOGY.

To the Vermont State Medical Society:

Your Committee on Necrology report the following deaths among members of this Society for the year ending September 30, 1911:

Dr. C. L. Stewart of Randolph, a member of Washington County Medical Society, died in November, 1910, in the eightieth year of his age.

Dr. Frederick S. Hutchinson of Enosburg Falls, died Jan. 6, 1911.

Dr. Samuel E. Maynard of Burlington, died June 2, 1911.

Dr. Lorenzo W. Hubbard of Lyndon, died June 24, 1911.

Dr. George S. Foster of Brattleboro, died August 18, 1911.

Dr. William L. Goodale of Montpelier, died September 17, 1911.

Obituaries of the above are appended hereto and will be submitted to the Committee on Publication for use in the next report.

Respectfully submitted by the Committee.

E. H. Martin,
E. H. Ross,
L. C. Holcombe,
Committee on Necrology.

DR. WILLIAM L. GOODALE OF MONTPELIER.

Died September 17, 1911.

Death was due to cerebral embolism. Dr. Goodale had not been in good health for months, but his condition was not considered serious until August 9, when a shock of paralysis affected his speech and side.

Shortly afterward he entered a drug store, as was his almost daily custom, but when the clerk addressed him the doctor did not respond nor did he reply to the salutations of acquaintances upon the street. He was taken to the hospital that day and within a few days his condition showed improvement and his power of speech was restored gradually.

He conversed with the doctors and nurses and seemed hopeful of recovery. Friday night he became worse and failed rapidly from that time. The news of his death came as a shock to his many friends despite his illness, for the reports of his condition had been bright for the past two weeks.

Dr. Goodale was born in Topsham in 1867, the son of Samuel Lorenzo Dow Goodale and Abbie Field Goodale. He attended school at the old Barre Academy, and entered the University of Vermont, Burlington, from which he graduated in 1888, when he was not quite 21 years of age.

He began his medical practice in Wentworth, N. H., and later went to Cabot, where he bought the practice of Dr. Fred P. Gale. He remained in that town until 1897, when he came to Montpelier and opened offices and he has since lived there. He was not long in building up a large practice and his thorough methods combined with a genial manner in the sick room made him popular both among the medical profession and among his patients. The latter have included at one time or another a large percentage of the community in the 14 years of his professional labors, and as "Doc" Goodale he was familiarly known to many people.

Dr. Goodale was a member of the Washington County Medical Society and the New England Order of Protection. During his life he had membership in many similar organizations, but preferred other phases of activity than attendance upon these, and at his death held membership in only the two above named.

He married Bertha M. Parks of Plainfield, who survives him. In his attendance upon the sick, Dr. Goodale displayed a cheerful unselfishness that exhausted much of his energy, and this reason is advanced by many why members of the medical profession do not withstand serious illness with the vigor of men who are not called upon in all hours of the day and night.

DR. LORENZO W. HUBBARD OF LYNDON.

Died June 24, 1911.

Lorenzo Weeks Hubbard, son of Richard and Loraine Hubbard, was born in Lyndon, February 3, 1841. He was educated in the common schools of his native town and at Lyndon Academy.

In September, 1863, he enlisted in Co. M, 11th Reg. Vt. Vols., and was appointed sergeant. After a year's service he was made hospital steward of the regiment and served in that capacity until the close of the war. He then studied medicine at Bellevue Hospital, New York, graduating in 1867. He returned to Vermont immediately and settled in Lunenburg, where he practiced successfully for six years. At the earnest request of Dr. Charles S. Cahoon, then in failing health, Dr. Hubbard returned to his native town, assisted Dr. Cahoon and later succeeded to his extensive practice there. He was a member of the Vermont Medical Society and several kindred organizations and was for several years president of the pension board.

Dr. Hubbard was a consistent member of the Congregational church, for a long time one of its deacons, and during his years of most exacting professional work his church was always remembered liberally in time and means. He was always actively identified with educational matters and had served in the various school offices creditably. He was for fourteen years a member of the school board.

Actively interested in public affairs, he regarded a public office as a public trust and accepted political preferment with fitting regard for its responsibilities. He served his town in many positions of honor and trust, always bringing to the discharge of his duties his best effort and endeavor. He represented Lyndon in the Legislature in 1882 and 1886 and again in 1896, and in 1902 he served Caledonia county in the State Senate. On each occasion he served on important committees, identifying himself with progressive legislation and discharged his duty with a quiet, modest dignity and constant regard for the interests of those he represented.

He was a member of Chamberlin Post, G. A. R., St. Johnsbury, and of Crescent Lodge, F. & A. M., Lyndonville, always in good standing.

Dr. Hubbard was united in marriage November 10, 1868, to Mary E., daughter of Bela and Martha Perry Holton, and three children have been born to them: Charles B., of Schenectady, N. Y.; May E., who died twenty years ago, and a son, who died in infancy. Mrs. Hubbard and Charles survive him.

Dr. Hubbard was a quiet, potent factor for good in the community in which he lived for the many years of his well-rounded life. He was always prominently, but modestly interested in the best interests

of the town and state, and was actively identified with any proposition that promised better things for those with whom he lived and labored. He was in every sense a man of clear vision, of intelligent well-grounded conviction and of unquestioned integrity. His death is a great loss to the community. That a good man has gone to his reward is the universal expression.

DR. GEORGE S. FOSTER OF BRATTLEBORO.

Died August 18, 1911.

George Scott Foster was born June 7, 1848, in Waltham, this state, and was a son of Nicholas and Esther (Kernon) Foster, who reared a family of two sons and four daughters. Dr. Foster attended the common schools of Waltham, then the Vergennes Classical Institute, after which he read medicine with Dr. Paschal Maxfield of Vergennes, continuing his studies with Prof. Walter Carpenter of Burlington. He graduated from the medical department of the University of Vermont in the class of 1874. Locating in Putney in 1875, Dr. Foster practiced a year with the late Dr. Dan P. Webster, then a prominent practitioner, who afterwards moved to Brattleboro.

Dr. Foster was skillful and successful and his professional services were in demand throughout this section, including towns across the Connecticut river in New Hampshire. He knew the experiences of the country doctor, and it was a great pleasure to hear him relate some of the incidents of his professional career. He became an active member of various medical organizations, including the Vermont, the White River Valley and the Windham County Medical societies and the American Medical Association. For many years he was a member of the board of United States pension examiners, who met regularly in Brattleboro, and for several years he had been a member of the Vermont State board of supervisors of the insane. He served his town well in the conduct of its educational matters, being superintendent of schools from 1875 to 1882, chairman of the board of directors from 1882 to 1898, and was a member of the county board of education from 1888 to 1890. Since the organization of the Brattleboro Trust Company he had been a director in that institution.

In politics Dr. Foster was a staunch Republican, and he kept in touch with the political affairs of the state. In 1896 he was elected a state senator, serving on the committee on the insane, committee on education, and was chairman of the joint standing committee on state and court expenses. He was a member of Golden Rule Lodge, No. 32, F. & A. M., of Putney, Fort Dummer Chapter, No. 12, R. A. M., of Brattleboro, Connecticut Valley Council, No. 16, R. & S. M., of Brattleboro, Beauseant Commandery, No. 7, K. T., of Brattleboro, and Mount Sinai Temple, N. M. S., of Montpelier. His religious preference was Universalist.

On May 28, 1879, he married Miss Alice S. Wheat of Putney, who survives. She was a daughter of the late Samuel E. Wheat. Dr. Foster was a man of impressive appearance, of wide general information, a congenial associate and was thoroughly devoted to his home. He will be greatly missed in this community and by a great number of acquaintances elsewhere.

DR. SAMUEL E. MAYNARD OF BURLINGTON.

Died June 2, 1911.

Samuel Erskine Maynard, M. D., late of Burlington, Vt., was born in Williston, Vt., December 3, 1868, son of Rev. Joshua Leland and Electa (Rogers) Maynard.

He received his early education in the public schools of Northfield and Burlington; entered the University of Vermont, and having selected the profession of medicine, after a two years' special course, he entered the medical department of the University of Vermont, and graduated from it with credit in 1891.

After a year of service as house surgeon at the Mary Fletcher Hospital in Burlington, he took the post graduate course in surgery at the College of Physicians and Surgeons in New York.

After finishing this special course he received an appointment upon the resident staff of the New York Lying-in Hospital. Subsequently he took special courses in the Polyclinic and Post Graduate Medical Schools of New York, and passed with credit the examinations required by the Regents of the University of the State of New York.

In 1893 he served for a time as ship surgeon of the Pacific Mail steamship City of Para, running to Colon, Central America.

Thus well equipped with study and experience, as well as by natural gifts, Dr. Maynard came to Burlington in the fall of 1893, where he was associated for three years with Dr. L. M. Bingham. During the year 1899 to 1900 he further perfected himself by post graduate work at Vienna and at the University of Berlin.

October 22nd, 1895, he married Mattie C. Field of Cornwall, Vt. They had two children: Norma Field Maynard and Martha Davies Maynard.

In 1899 he was Professor of Physical Diagnosis and Instructor in Theory and Practice in the University of Vermont. During the past three years he has been Professor of Gynecology, and for several years attending surgeon at the Mary Fletcher and Fanny Allen Hospitals.

He was division surgeon of the Rutland Railroad, and surgeon of the Central Vermont Railway Company; member of the New York and New England Association of Railway Surgeons, of the Burlington and Chittenden County Clinical Society, of the Vermont Medical Society and of the American Medical Association, the annual meeting of which Dr. Maynard expected to attend at Los Angeles. He was consultant to the Clinton County Hospital at Plattsburg, N. Y.

At the time of his death he had a paper prepared to be read before the Canadian Medical Association at Montreal upon "An operation for hysterectomy."

He was a member of Hamilton Lodge, I. O. O. F., and was also a member of the Lambda Iota academic and Delta Mu medical fraternities, and a member of the College Street Congregational Church.

As a surgeon he had few equals and his comparatively short career was as brilliant as it was successful. He was eminent in his profession and had steadily raised himself therein by his industry, untiring energy, and great devotion. He was much sought after to perform abdominal operations in particular, and his skill and judgment were remarkable. As a

physician his services were in such demand that for years he had restricted himself to office practice. His patients were numbered by hundreds. One of the daily levees at his office was a sight not soon to be forgotten.

As a man Dr. Maynard possessed sterling qualities which earned for him general esteem and regard. This was amply shown by the expressions of grief when the fact of his death became known. It is given to but few men to be so deeply mourned.

DR. FREDERICK S. HUTCHINSON OF ENOSBURG FALLS.

Died January 6, 1911.

Three days before his death the span of horses which he was driving became unmanageable, his sleigh was upset against an iron post, and he sustained violent injuries to the abdominal organs from which he died.

"Dr. Fred," as he was familiarly and endearingly known throughout his county, and beyond, was born in Enosburg, March 27th, 1861. His father was Dr. William R. Hutchinson, for many years a leader among the medical men of this county, whose stalwart ideals and wise counsels many members of this Society well remember. His mother was Celinda Smith Hutchinson.

He received his early education in the public schools of his native town and at Montpelier Seminary, from which he was graduated in 1877. Three years later he entered the medical department of the University of Vermont. It cannot be said that this was the beginning of his study of medicine, for often he has told that before he entered college at all, he had gleaned much practical knowledge from his father which in after years contributed largely to his own resourcefulness and success. He was graduated from the University with honor in 1882 when 21 years of age. Soon after he began the practice of his profession in his home town, where he continued his labors until his death. In 1887 he married Miss Helen Elizabeth Moore of East Berkshire, who with his brother, Dr. Watson Hutchinson of Enosburg Falls, survives him. In 1904 he was elected to represent Enosburg in the State Legislature. From the very beginning of his career he was noted for a professional enthusiasm, and a devotion to duty which, associated with infinite tact, splendid ability, and a genuine love for and sympathy with his fellowmen, soon placed him in the fore-front of Vermont medical men, and but for his great modesty and dislike for publicity he could easily have attained in any community that preeminent position which he held in his own. His skill and resourcefulness soon became known to the people and physicians of the surrounding towns, so that for many years previous to his death he enjoyed an extensive consulting practice. This in conjunction with a large and ever increasing private practice, so drew upon his time and strength in later years that even his splendid physique began to experience the strain of 29 years of arduous and exacting duty, yet never to the end did he allow his own physical discomfort and exhaustion to come between him and that high conception of duty which he held.

To rich and to poor alike he ministered untiringly. The thought of recompense was the last to enter his mind. He was an ideal family physician. His race was gentle, and the elements so mixed in him that nature might stand up, and say to all the world: "This was a Man."

REPORT OF DELEGATE TO THE MAINE STATE MEDICAL SOCIETY.

To the Members of the Vermont Medical Society:

As delegate, I had the honor and pleasure of presenting the greetings of this Society to the Maine State Medical Society, which met in Augusta on the 28th and 29th of June. The meeting was largely attended and very enthusiastic, and reception to visiting delegates cordial in the extreme. The excellent character of the papers and their discussion shows the medical profession of Maine to be abreast of the times in all things pertaining to preventive and progressive medicine. The President's address, by Dr. E. H. Bennett of Lubec, deserves especial mention. He alluded briefly to what had been accomplished in the way of legislation, and what still remains to be done; to the fact that much work needs to be done to reduce the ravages of contagious diseases; he advocated the compulsory medical inspection of schools and obliging towns to make their school houses sanitary; deplored the laxity of the enforcement of the laws relating to the sale of narcotics, and urged the county societies to maintain an honest and impartial investigation of illegal practitioners, whatever their standing in the community.

A paper of much interest was that by Dr. H. D. Evans, director of the State Laboratory of Hygiene, on "The Need for State Control of Public Water Supplies." He urged the passage of a law, giving such control to the State Board of Health, a measure for which was defeated in the last Legislature. At the close of the first day's session, the Society was royally entertained by the Kennebec County Society, with a clam bake, such only as Maine can boast. The second day's session was replete with interest throughout. Papers were read on "The Surgery of the Appendix" by Dr. H. H. Crane of Bangor, which was fully discussed. Dr. A. A. Downs of Fairfield gave a most interesting paper on "The Organization and Work of an Anti-Tuberculosis Association in a Small Community." He pointed out very forcefully the work that had been done by such an organization started by the Waterville Medical Society and turned over to the laity for management. The association is composed of people who pay a minimum of $1.00 per year and elect directors. Dr. Downs asserted that he believed it practicable for every community of 5,000 people to organize such a society and to care for their poor at a reasonable rate. "School Hygiene and the Medical Inspection of Schools" was a timely and interesting paper by Dr. H. L. Putnam of Houlton.

"The Surgical Treatment of Gastric Ulcer" was taken up by Dr. Charles L. Scudder of Boston, illustrated with stereopticon views. A most successful and interesting meeting was brought to a close with an elaborate banquet at the Augusta House, where about two hundred participated. Following the banquet came the annual oration, given by Dr. Harvey A. Christian, dean of the Harvard Medical School.

Your delegate wishes to extend his thanks to the Vermont Society for the honor of representing it at the Maine meeting, and should consider it most unfortunate for him had he for any reason been unable to attend.

Respectfully submitted,

M. P. Stanley, Delegate.

REPORT OF DELEGATE TO CONN. RIVER VALLEY MEDICAL ASSOCIATION.

To the Vermont State Medical Society:

Gentlemen: Your delegate to the Connecticut River Valley Medical Association was unable to attend the regular meeting of the present year, but has had that pleasure many times in years past. Through the courtesy of Dr. J. S. Hill of Bellows Falls, secretary of the Society, I am able to present the following facts: This association was formed more than fifty years ago and for many years was, and still is, a powerful factor in developing higher standards and increasing culture in the medical profession both socially and professionally in southern Vermont and the contiguous district in New Hampshire. It draws its membership from Windsor and Windham counties and from Cheshire and Sullivan counties in the latter state. Among its founders and supporters it has numbered many brilliant names in the profession from both states.

Its benefits have also been extended to some of the brethren in Massachusetts, living near our southern borders, who have been regular and valued attendants—indeed, at times meetings have been held in the last named state. Formerly the society held regular quarterly meetings, mostly at Bellows Falls, but occasionally at Brattleboro and at Keene, N. H. Of late years, however, since the reorganization of the State Society and the establishment of the County societies, the meetings have been reduced to one each year and Bellows Falls has been selected as the regular meeting place.

The present membership is about one hundred, and usual attendance about thirty. At these meetings most valuable papers are presented not only by the members, but by eminent men from different parts of New England. At the last stated meeting held in May of the present year papers were read by distinguished physicians from Rutland and Burlington, Vt., Springfield, Mass., and Keene, N. H. The free and full discussion of papers by the members from the standpoint of personal experience is always a marked feature of the meetings. The association has a proud record in the past and a hopeful future.

Respectfully submitted,

W. N. Bryant, Delegate.

REPORTS OF DELEGATES TO OTHER SOCIETIES.

C. W. Bartlett of Bennington.

I think I owe the Secretary an apology for not sending my report as a delegate to the Rhode Island Society. The occasion was the laying of the cornerstone of the new Rhode Island State Medical Laboratory, and the meeting was given up entirely to that. At four o'clock in the afternoon there was an address by Dr. George Bloomer of Butler's Hospital—an historical address, and then there were the ceremonies at the new building, the laying of the cornerstone, and in the evening a banquet at the Narragansett Hotel, and on the following day I was very nicely entertained by several doctors in Providence, three of whom came from Vermont, and I wish to especially mention Dr. Rutherford, who was formerly of Burlington. I had a very nice and enjoyable time.

E. M. Crane of Hardwick.

Perhaps I owe the Society an apology for not having been more energetic in finding out when and where the Massachusetts meeting was to be held. I appreciate the honor you conferred upon me in appointing me your delegate, as Dr. Beecher informed me that I had been appointed and my name sent in to the Massachusetts Society, and that I would receive notice of the meeting. I didn't suspect but what I would receive it, till along in the middle of June, when a letter came from Dr. Beecher informing me that it had been held the week before.

Dr. C. H. Beecher of Burlington.

I might explain the failure of delegates to other societies to receive notices of meetings. It is customary for societies to notify the secretary of their sister societies of the time and place of meetings. This year a good many of these notices failed to come to me, and for that reason some of the delegates from this Society to the other societies failed to get a notice from me of the time and place of those meetings, but their names were sent in to the State societies to which they were elected delegates, and while I would be glad to do all I can to get the notices of meetings to delegates I can't so do until I know something about it myself.

Dr. P. F. Canedy of Greenfield, Mass.

I am a delegate from Massachusetts and feel that the apology is due from the Massachusetts Society on this matter, and so far as possible I will bring it to the notice of the proper authority and see that such a thing does not happen again.

Dr. Holton:—Should a matter with reference to the pay of members on commissions, etc., be presented to the Society or House of Delegates? I ask especially because the question has been asked me, and I thought we needed to answer it—providing for the medical inspection of schools, and that a medical inspector should be appointed and his salary fixed by the school directors of the town. I have been asked by those directors what about their receiving pay and their standing in the Medical Society. My idea has been that this Society could not interfere with the actual legislation, and I desire to present that to the counsel.

Dr. W. L. Havens of Chester Depot:—I don't believe under existing circumstances the Society could interfere.

Dr. C. H. Beecher of Burlington:—That contract price regulation provides that the price named for the work shall not be below the prevailing schedule of fees in the locality where the fee is proposed. It didn't prohibit contracts except at a less rate than the prevailing rate for that sort of work.

INTRODUCTION OF DELEGATES FROM OTHER SOCIETIES.

Dr. Powers F. Canedy of Greenfield, Mass.

Mr. President and Gentlemen of the Vermont State Medical Society:

I feel it to be a very great privilege to be the bearer of greetings from one association to another. The Massachusetts Society congratulates its neighbor, Vermont, on the completion of almost a century of useful service and wishes you success in the years to come. Personally, I am very grateful for the opportunity to visit this place and meet the members of this Society and listen to a program which promises to be of much interest.

DR. W. D. WILLIAMSON OF MAINE.

Mr. Chairman and Gentlemen:

I never came to Burlington only as I came to learn something, and that is really my mission at this time. It seems to me, in looking over your schedule and list of topics to be taken up, and the men behind them, that we can't go away from this meeting without having learned something, and I assure you that is my mission here to-day. I do extend to you, from our Maine Association, its hearty greetings and wish that we might co-operate with you in the good work that you and like associations are endeavoring to do in the forward march of medicine and surgery.

DR. BRIGGS OF CHAMPLAIN, N. Y.

Mr. President and Gentlemen of the Vermont State Medical Society:

I will take only enough of your time to bring you the greetings from the New York State Society. Day before yesterday I had a talk with the President of our State Society, Dr. Wendell Phillips of New York City, and he especially asked me to bring his greetings to your president and members of your Society and invite you most cordially to our annual meeting, which will occur next winter, and he wished me to say that special efforts are being made to make that meeting radically different—an improvement, if possible, on the meetings heretofore. As you know, the membership of the New York Society is large, but the attendance is not up to what we want it to be, the last one not reaching quite five hundred. We want eighteen to twenty hundred at the next meeting, and they are making some radical changes for that meeting by which they hope to increase the attendance. The meeting will be divided into sections. Heretofore it has been all one common general session in which papers of all descriptions were presented. It has been found that the program was so full that they have had to "railroad" it through. There was not time for proper discussion of the topics, and in order to make it more helpful and give an outline to the various branches of medicine and surgery they have decided to divide the meetings into sections something similar to the meetings of the American Medical Association. A section on general medicine, surgery and specialists of nervous diseases, diseases of the mind, and eye, ear, nose and throat. There will be five of these sections, and all the larger divisions if this works well. The President wished me to extend a cordial invitation to you all to attend that meeting, and we surely will be mindful of that scriptural injunction about entertaining the stranger within our gates.

MEETING OF THE HOUSE OF DELEGATES OF THE VERMONT STATE MEDICAL SOCIETY.

October 12, 1911.

The meeting of the House of Delegates was called to order at 5.20 p. m. by the President, J. P. Gifford. Roll call by the Secretary showed 22 delegates or alternates present as follows:

Addison County—Drs. M. H. Eddy, E. H. Martin.
Bennington County—No delegate.
Caledonia County—W. A. Ricker.
Chittenden County—Lyman Allen, J. H. Dodds, C. K. Johnson, F. W. Sears, J. N. Jenne, P. H. McMahon.
Franklin County—E. A. Hyatt, W. J. Upton, E. M. Brown.
Lamoille County—No delegate.
Orleans County—No delegate.
Rutland County—W. W. Townsend, C. W. Peck, A. H. Bellerose, E. R. Clark, C. W. Strobell, Geo. Rustedt.
Washington County—F. E. Steele, M. L. Chandler, J. P. Gifford, L. A. Newcombe.
Windham County—No delegate.
Windsor County—No delegate.

Dr. Townsend moved that the report of the Secretary stand as printed and be approved without reading. Carried.

The only committee to make any report was the Medico-Legal Committee. Dr. Jenne presented the report and showed that not a single case had been referred to the Committee during the past year.

Dr. Hyatt of the Medico-Legal Committee spoke of the needs of an amendment to the Act of Incorporation of the Vermont Medical Society in 1813 showing certain discrepancies in the official name of the Society and in its powers and privileges. Dr. Jenne moved that the matter be referred to the Legislative Committee. Carried.

Dr. Sears called attention to the fact that the Society has lost 58 members during the past year, largely because of the increase in the dues for medico-legal expenses. This is precisely the reverse of what was predicted last year, when the Medical Defense amendment was passed. The House of Delegates, however, took no action upon this matter.

Dr. E. R. Clark read a resolution passed by the Rutland County Society regarding the mentally defective. This was referred to the Legislative Committee with the endorsement of the House of Delegates. In the discussion of this matter Dr. F. W. Sears read a letter on "The Mentally Defective" from Dr. D. D. Grout and spoke in favor of the resolution; as did also Dr. Peck, Dr. Clark and Dr. Jenne.

For the next Annual Meeting Dr. Bellerose invited the Society to Rutland, and Dr. Newcombe, speaking for the Washington County Society, invited the State Society to meet at Montpelier. Dr. Hyatt spoke of the advantage of meeting in Montpelier during the session of the Legislature. Dr. M. L. Chandler moved that we accept the invitation of the Washington County Society to meet in Montpelier in 1912, and the motion was carried.

ELECTION OF OFFICERS.

Dr. Peck nominated for President Dr. F. T. Kidder of Woodstock, and he was unanimously elected. Dr. Hyatt moved that a committee of three be appointed by the Chair to nominate the remaining officers, committees and delegates of the Society and the officers of the House of Delegates. Carried. The Chair appointed Drs. Hyatt, M. L. Chandler and Peck.

The meeting then adjourned to 8.30 a. m., October 13, 1911.

The Committee on nominations reported as follows:

OFFICERS.

Vice-President—Wm. Lindsay.
Secretary—C. H. Beecher.
Treasurer—C. F. Dalton.
Auditor—A. M. Norton.

COMMITTEES.

Executive—F. T. Kidder, Wm. Lindsay, C. H. Beecher.
Publication—David Marvin, F. E. Farmer, C. H. Beecher.

Legislative—W. N. Bryant, F. W. Sears, C. S. Scofield.
Medical Education (1 member for 3 years to succeed W. N. Bryant)—J. M. Allen.
Necrology (3 members)—S. W. Hammond, J. H. Blodgett, W. W. Hutchinson.
Medico-Legal (1 member for 3 years to succeed J. N. Jenne)—J. N. Jenne.

DELEGATES TO:

Connecticut River Valley Medical Association—A. C. Bailey.
White Mountain Medical Association—F. E. Farmer.
White River Valley Medical Association—F. E. Clark.
Maine State Medical Society—J. W. Jackson.
New Hampshire Medical Society—G. L. Bates.
Massachusetts Medical Society—M. R. Crain.
Connecticut State Medical Society—C. W. Bartlett.
Rhode Island Medical Society—C. W. Peck.
Medical Society of the State of New York—C. S. Scofield.

ANNIVERSARY CHAIRMAN.

W. N. Bryant.

OFFICERS FOR HOUSE OF DELEGATES.

President—J. H. Winch.
1st Vice-President—E. M. Pond.
2nd Vice-President—E. M. Brown.
Secretary—L. A. Newcombe.

The House accepted and adopted the report of the Committee on Nominations and the officers and committees and delegates as reported by them were duly elected.

The following motion was passed:

That a committee of three, consisting of the President, Secretary and C. F. Dalton, be empowered to consider a communication from the American Medical Association and take such action as seems to them necessary in the premises.

Moved that the Chair appoint a committee of three to report at the next Annual Meeting to the House of Delegates plans for the celebration of the Centennial Anniversary of the incorporation of this Society.

The Chair appointed Dr. J. N. Jenne, Dr. J. B. Wheeler, Dr. E. M. Pond.

Moved that the House of Delegates instruct our Legislative Committee to confer with our attorney, Warren Austin, and our Secretary, and prepare an amendment to our 1813 act of incorporation which will make our present acts and methods of work consistent with it.

OFFICERS AND MEMBERS OF VERMONT STATE MEDICAL SOCIETY.

For 1911-12.

President—F. T. Kidder, Woodstock.
Vice-President—Wm. Lindsay, Montpelier.
Secretary—C. H. Beecher, Burlington.
Treasurer—C. F. Dalton, Burlington.
Auditor—A. M. Norton, Bristol.

COMMITTEES.

Executive—F. T. Kidder, Wm. Lindsay, C. H. Beecher.
Publication—C. H. Beecher, F. E. Farmer, David Marvin.
Legislative—W. N. Bryant, F. W. Sears, C. S. Scofield.
Necrology—S. W. Hammond, J. H. Blodgett, W. W. Hutchinson.
Medical Education—W. L. Havens, (Term expires 1913); H. H. Swift, (Term expires 1912); J. M. Allen, (Term expires 1914).
Anniversary Chairman—W. N. Bryant.
Medico-Legal—J. N. Jenne, (Term expires 1914); Wm. Lindsay, (Term expires 1912); E. A. Hyatt, (Term expires 1913).

DELEGATES.

Medical Society of State of New York—C. S. Scofield.
Maine Medical Association—J. W. Jackson.
New Hampshire—G. L. Bates.
Massachusetts—M. R. Crain.
Connecticut—C. W. Bartlett.
Rhode Island—C. W. Peck.
White River Valley Medical Association—F. E. Clark.
White Mountain Medical Association—F. E. Farmer.
Connecticut River Valley Association—A. C. Bailey.

OFFICERS OF HOUSE OF DELEGATES.

1912 MEETING.

President—J. H. Winch, Northfield.
1st Vice-President—E. M. Pond, Rutland.
2nd Vice-President—E. M. Brown, Sheldon.
Secretary—L. A. Newcombe, Montpelier.

MEMBERS OF THE VERMONT STATE MEDICAL SOCIETY FOR THE YEAR ENDING OCT. 1st, 1911.

ADDISON COUNTY.

MEMBERS.

E. G. Blaisdell ..... Bridport
F. T. Briggs ..... Bristol
O. M. Bump ..... Salisbury
G. P. Collins ..... Ferrisburg
P. L. Dorey ..... Middlebury
M. H. Eddy ..... Middlebury
S. S. Eddy ..... Middlebury
G. F. Edmunds ..... Bristol
C. W. Howard ..... Shoreham
E. H. Martin ..... Middlebury
A. M. Norton ..... Bristol
L. F. A. Ouellet ..... Orwell
F. C. Phelps ..... Vergennes
E. Pilon ..... Vergennes
Mary M. Pratt ..... Shoreham
R. W. Prentiss ..... Middlebury
F. E. Read ..... Salisbury
H. L. Townsend ..... Bridport
V. M. Waterman ..... Vergennes
W. J. White ..... Middlebury
G. F. B. Willard ..... Vergennes
H. L. Williamson ..... Bristol

BENNINGTON COUNTY.

MEMBERS.

C. W. Bartlett.....Bennington
F. E. Dean.....South Shaftsbury
L. H. Hemenway.....Manchester
L. E. Hemenway.....Manchester
A. E. Houle.....Bennington
F. C. Liddle.....Dorset
C. W. Phillips.....Arlington
L. H. Ross.....Bennington
E. V. Trull.....Manchester
J. B. Woodhull.....North Bennington

CALEDONIA COUNTY.

MEMBERS.

W. J. Aldrich.....St. Johnsbury
J. M. Allen.....St. Johnsbury
W. C. Blake.....Lyndon
D. R. Brown.....Lyndonville
A. A. Cheney.....Lyndonville
C. A. Cramton.....St. Johnsbury
E. M. Crane.....Hardwick
S. E. Darling.....Hardwick
E. E. Dickerman.....West Burke
I. N. Eastman.....Groton
H. A. Elliott.....Barnet
C. Fairbanks.....St. Johnsbury
F. E. Farmer.....St. Johnsbury
W. B. Fitch.....St. Johnsbury
G. B. French.....Concord
J. M. Gibson.....McIndoes Falls
R. T. Johnson.....West Concord
F. C. Kinney.....Greensboro Bend
H. H. Lee.....Wells River
A. J. Mackey.....Peacham
H. H. Miltimore.....St. Johnsbury
A. C. McDowell.....Lyndonville
R. M. McSweeney.....St. Johnsbury
C. A. Prevost.....St. Johnsbury
W. N. Ricker.....Wells River
E. H. Ross.....St. Johnsbury
T. R. Stiles.....St. Johnsbury
A. E. Wakefield.....St. Johnsbury
F. Welsh.....St. Johnsbury
C. B. Wilson.....Bradford

CHITTENDEN COUNTY.

MEMBERS.

B. D. Adams.....Burlington
L. Allen.....Burlington
B. J. Andrews.....Burlington
J. A. Archambault.....Essex Junction
F. J. Arnold.....Burlington
F. W. Baylies.....Burlington
C. H. Beecher.....Burlington
W. D. Berry.....Burlington
L. M. Bingham.....Burlington
G. H. Branch.....Grand Isle
T. S. Brown.....Burlington
E. T. Brown.....Burlington
E. H. Buttles.....Burlington
W. G. Church.....Burlington
F. E. Clark.....Burlington
I. S. Coburn.....Milton
C. F. Dalton.....Burlington
J. H. Dodds.....Burlington
W. H. Englesby.....Burlington
R. C. Flagg.....Essex Center
S. L. Goodrich.....Waterbury
D. D. Grout.....Waterbury
D. C. Hawley.....Burlington
L. Hazen.....Burlington
E. A. Heath.....Winooski
A. S. C. Hill.....Winooski
L. C. Holcombe.....Milton
H. D. Hopkins.....Waterbury
Sue E. Howard.....Burlington
G. B. Hulburd.....Jericho
F. K. Jackson.....Burlington
J. N. Jenne.....Burlington
C. K. Johnson.....Burlington
R. W. Johnson.....Burlington
Henry Ladd.....Essex Center
E. S. Lane.....N. Ferrisburgh
W. A. Lyman.....Burlington
David Marvin.....Essex Junction
P. H. McMahon.....Burlington
L. B. Morrison.....Burlington
S. L. Morrison.....Burlington
W. S. Nay.....Underhill
C. A. Pease.....Burlington
C. N. Perkins.....Burlington
G. F. Rist.....Burlington
J. J. Ross.....Richmond
L. B. Rowe.....Orwell
G. M. Sabin.....Burlington
F. W. Sears.....Burlington
I. Sharon.....Shoreham
D. A. Shea.....Burlington
F. R. Stoddard.....Shelburne
B. H. Stone.....Burlington
J. D. Tanner.....Burlington
W. T. Tilley.....Richmond
H. C. Tinkham.....Burlington
E. G. Twitchell.....Burlington
M. C. Twitchell.....Burlington
H. R. Watkins.....Burlington
J. B. Wheeler.....Burlington
H. L. Wilder.....Burlington
J. S. Wilson.....Fort Ethan Allen

FRANKLIN COUNTY.

MEMBERS.

C. G. Abell.....Enosburgh Falls
W. B. Arnold.....St. Albans
C. E. Allen.....Swanton
G. C. Berkley.....St. Albans
E. M. Brown.....Sheldon
N. P. Carey.....East Fairfield
G. S. Clark.....Montgomery Center
L. W. Clough.....Enosburgh Falls
A. L. Cross.....Swanton
A. Davidson.....St. Albans
John Gibson.....St. Albans
W. W. Hutchinson.....Enosburgh Falls
E. A. Hyatt.....St. Albans
W. B. Hyde.....Bakersfield
C. U. Johnson.....West Berkshire
H. H. Johnson.....Franklin
E. R. Lape.....Swanton
E. P. Lunderville.....Richford
S. H. Martin.....Georgia
E. J. Melville.....St. Albans
A. O. Morton.....St. Albans
S. W. Paige.....St. Albans
J. R. Patten.....Fairfield
R. N. Pelton.....Richford
J. G. Perrault.....St. Albans
H. L. Pierce.....Swanton

C. S. Scofield ..... Richford
Grace Sherwood ..... St. Albans
R. B. Thomas ..... Enosburgh Falls
W. J. Upton ..... St. Albans
E. L. Washburn ..... East Berkshire
R. E. Welch ..... Franklin

LAMOILLE COUNTY.

MEMBERS.

H. W. Barrows ..... Stowe
G. L. Bates ..... Morrisville
C. W. Bates ..... Morrisville
J. H. Bean ..... Jeffersonville
L. P. Holcomb ..... Johnson
W. M. Johnstone ..... Morrisville
C. S. Leach ..... Hyde Park
G. B. Maurice ..... Waterville
J. C. Morgan ..... Stowe
R. G. Prentiss ..... Johnson
G. C. Rublee ..... Wolcott
S. G. Start ..... Cambridge
A. J. Valleau ..... Morrisville

ORLEANS COUNTY.

MEMBERS.

G. F. Adams ..... West Derby
F. N. Aldrich ..... Derby Center
J. F. Blanchard ..... Newport
A. M. Butterfield ..... North Troy
E. M. Cleasby ..... Orleans
J. C. Colby ..... Stanstead, P. Q.
C. L. Erwin ..... Newport Center
R. A. Gatchell ..... West Charleston
A. M. Goddard ..... Albany
O. B. Gould ..... Newport
F. R. Hastings ..... Barton
J. F. Kendrick ..... Charleston
B. D. Longe ..... Newport
E. M. Nichols ..... Barton
C. C. Waller ..... N. Troy
H. E. Sargent ..... Island Pond
R. M. Wells ..... Barton Landing
J. F. Wright ..... Barton Landing
R. F. Willard ..... Coventry

RUTLAND COUNTY.

MEMBERS.

E. L. Averill ..... Brandon
O. C. Baker ..... Brandon
C. F. Ball ..... Rutland
A. H. Bellerose ..... Rutland
C. H. Bonney ..... Ludlow
W. N. Bryant ..... Ludlow
C. S. Caverly ..... Rutland
E. R. Clark ..... Castleton
O. F. Clough ..... Poultney
B. D. Colby ..... Sudbury
S. A. Cootey ..... Wallingford
T. A. Cootey ..... Rutland
M. R. Crain ..... Rutland
N. J. Delahanty ..... Rutland
J. J. Derven ..... Poultney
J. S. Eastwood ..... Brandon
E. D. Ellis ..... Poultney
J. W. Estabrook ..... Brandon
H. A. Francisco ..... Rutland
O. J. Gilchrist ..... Rutland
A. J. Greenwood ..... Poultney
C. E. Griffin ..... Fair Haven
W. H. Grinnell ..... Danby
J. B. Guiltinan ..... West Rutland
T. H. Hack ..... Proctor
T. Hagan ..... Pittsford
J. M. Hamilton ..... Rutland
S. W. Hammond ..... Rutland
J. D. Hanrahan ..... Rutland
L. A. Heidel ..... Rutland
J. S. Horner ..... West Pawlet
W. C. Klotz ..... Pittsford
R. Lape ..... Fair Haven
H. L. Manchester ..... Pawlet
M. J. Mangan ..... Rutland
G. G. Marshall ..... Wallingford
H. L. Martyn ..... Cuttingsville
J. H. Miller ..... Wallingford
R. H. Miner ..... Windsor
W. H. Morehouse ..... Fair Haven
J. P. Newton ..... Benson
G. D. Parkhurst ..... Fair Haven
C. W. Peck ..... Brandon
C. C. Perry ..... West Rutland
John Pinckney ..... Pittsford
W. S. Pomeroy ..... Danby
E. M. Pond ..... Rutland
C. B. Ross ..... West Rutland
G. Rustedt ..... Rutland
H. R. Ryan ..... Rutland
B. H. Seeley ..... Castletor
R. E. Smith ..... Rutland
Wm. Stickney ..... Rutland
C. W. Strobell ..... Rutland
H. H. Swift ..... Pittsford
J. E. Thomson ..... Rutland
W. W. Townsend ..... Rutland
J. L. Welch ..... Proctor
E. O. Whipple ..... Danby
J. H. Woodward ..... New York City

WASHINGTON COUNTY.

MEMBERS.

F. C. Angell ..... Randolph
F. X. Z. Archambault ..... Barre
A. C. Bailey ..... Randolph
G. S. Bidwell ..... Waterbury
A. B. Bisbee ..... Montpelier
L. W. Burbank ..... Cabot
F. H. Carter ..... Plainfield
H. S. Carver ..... Marshfield
C. E. Chandler ..... Montpelier
M. L. Chandler ..... Barre
E. A. Colton ..... Montpelier
J. E. Dewey ..... Montpelier
J. P. Gifford ..... Randolph
V. C. Goodrich ..... Barre
W. R. Harkness ..... Montpelier
G. L. T. Hayes ..... Graniteville
H. H. Hayward ..... Tunbridge
C. E. Hunt ..... Montpelier
J. H. Judkins ..... Northfield
L. L. Leonard ..... Barre
W. Lindsay ..... Montpelier
A. T. Marshall ..... Chelsea
M. E. McGuire ..... Montpelier
L. A. Newcombe ..... Montpelier
H. L. Newell ..... East Randolph
G. H. Parmenter ..... Montpelier

W. D. Reid .....Barre
R. W. Rowland .....East Corinth
C. J. Rumrill .....Randolph
L. A. Russlow .....Randolph
E. G. Sprague .....Barre
C. L. Stewart .....Randolph
F. E. Steele .....Waterbury
O. G. Stickney .....Barre
W. J. Tindall .....Montpelier
W. D. Turner .....Worcester
W. L. Wasson .....Waterbury
E. B. Watson .....Williamstown
H. L. Watson .....Montpelier
H. A. Whitney .....Northfield
J. H. Winch .....Northfield

WINDHAM COUNTY.

MEMBERS.

E. S. Allbee .....Bellows Falls
G. R. Anderson .....Brattleboro
J. H. Blodgett .....Bellows Falls
E. S. Bowen .....Brattleboro
W. D. Bowen .....Saxtons River
G. D. Buxton .....Proctorville
E. R. Campbell .....Bellows Falls
I. R. Doane .....Springfield
F. L. Gilbert .....Grafton
L. H. Gillette .....Springfield
G. H. Gorham .....Bellows Falls
J. W. Gregg .....Brattleboro
H. P. Greene .....Brattleboro
F. Hamilton .....Brattleboro
W. L. Havens .....Chester Depot
W. F. Hazelton .....Bellows Falls
J. S. Hill .....Bellows Falls
H. D. Holton .....Brattleboro
R. B. Hunter .....Brattleboro
W. H. Lane .....Brattleboro
S. E. Lawton .....Brattleboro
J. F. McGinity .....Ludlow
A. I. Miller .....Brattleboro
A. L. Miner .....Bellows Falls
G. G. Murray .....Bellows Falls
J. F. O'Brien .....Bellows Falls
F. L. Osgood .....Townshend
C. S. Pratt .....Brattleboro
T. Rice .....Townshend
J. T. Rudden .....Bellows Falls
J. S. Stevenson .....Chester
W. N. Thompson .....Hartford, Conn.
H. Tucker .....Brattleboro
H. L. Waterman .....Brattleboro
P. P. White .....Williamsville

WINDSOR COUNTY.

MEMBERS.

C. H. Bates .....Mechanicsville
J. D. Brewster .....Windsor
C. M. Campbell .....Rochester
D. S. Drake .....White River Junction
A. C. Eastman .....Woodstock
T. F. Gartland .....White River Junction
C. H. Hazen .....Springfield
J. C. Kenney .....Tilton, N. H.
F. T. Kidder .....Woodstock
C. E. Merriam .....Rochester
F. C. Morgan .....Claremont, N. H.
J. H. Ranney .....Pittsfield
V. M. Rogers .....Quechee
F. C. Russell .....Newbury
M. P. Stanley .....White River Junction

HONORARY MEMBERS.

Conn, G. P. .....Concord, N. H., 1869
Watson, H. P. .....Manchester, N. H., 1887
Ramson, J. B. .....Dannemora, N. Y., 1889
Field, A. E. .....Barre, Vt., 1890
Douglas, O. B. .....Concord, N. H., 1891
Crothers, T. D. .....Hartford, Conn., 1892
Lyon, E. M. .....Plattsburgh, N. Y., 1892
Irish, J. C. .....Lowell, Mass., 1894
Shattuck, Frederick C. .....Boston, Mass., 1894
Porter, William H. .....New York City, 1895
Gordon, S. C. .....Portland, Me., 1895
Marcy, Henry O. .....Boston, Mass., 1896
Mabon, William .....Ogdensburgh, N. Y., 1897
Stearns, Henry P. .....Hartford, Conn., 1899
Richardson, Maurice H. .....Boston, Mass., 1899
Lockhart, F. A. L. .....Montreal, 1899
Cook, Geo. H. .....Natick, Mass., 1901
Weeks, S. H. .....Portland, Me., 1901
Wiggin, F. H. .....New York City, 1901
Gordonier, H. C. .....Troy, N. Y., 1902
Crowell, H. L. .....Kansas City, Mo., 1903
Emerson, Francis P. .....Boston, Mass., 1904
Scudder, Chas. L. .....Boston, Mass., 1905
LeFevre, Egbert .....New York City, 1906
Arnold, H. D. .....Boston, Mass., 1906
Gile, J. M. .....Hanover, N. H., 1907
Pisek, G. R. .....New York City, 1908
Haynes, I. S. .....New York City, 1908
Scripture, E. W. .....New York City, 1908
Cabot, R. C. .....Boston, Mass., 1909
Syms, Parker .....New York City, 1909
Dodd, W. J. .....Boston, Mass., 1910
Lloyd, Samuel .....New York City, 1910
Hodskins, M. B. .....Palmer, Mass, 1911
Crile, G. W. .....Cleveland, O., 1911
Albee, F. H. .....New York, 1911

LIST OF PRESIDENTS SINCE 1851.

Goldsmith, M. .....Rutland, 1851
Palmer, B. W. .....Woodstock, 1852
Thayer, S. W., Jr. .....Northfield, 1853
Warner, E. D. .....New Haven, 1854
Perkins, Joseph .....Castleton, 1855
Carpenter, Walter .....Randolph, 1856
Stevens, H. F. .....St. Albans, 1857
Allen, C. L. .....Middlebury, 1858
Knights, A. E. .....Springfield, 1859
Morgan, B. F. .....Bennington, 1860
Woodward, A. T. .....Brandon, 1861
Stiles, J. N. .....Windsor, 1862
Bradford, P. D. .....Northfield, 1863
Fassett, O. F. .....St. Albans, 1864
McCollom, William .....Woodstock, 1865
Warner, E. D. .....New Haven, 1866

Frost, C. P.	Brattleboro,	1867
Richmond, J. S.	Woodstock,	1868
Janes, Henry	Waterbury,	1869
Putnam, S.	Montpelier,	1870
Upham, E. F.	West Randolph,	1871
Holton, H. D.	Brattleboro,	1872
Butler, L. C.	Essex,	1873
Butler, L. C.	Essex,	1874
Butler, L. C.	Essex,	1875
Dunsmore, George	St. Albans,	1876
Chandler, C. M.	Montpelier,	1877
Bullard, G. B.	St. Johnsbury,	1878
Thayer, S. W.	Burlington,	1879
Jackson, J. Henry	Barre,	1880
Sherwin, O. W.	Woodstock,	1881
Bingham, L. M.	Burlington,	1882
Clark, S. S.	St. Albans,	1883
Draper, Joseph	Brattleboro,	1884
Kemp, D. G.	Montpelier,	1885
Brooks, S. T.	St. Johnsbury,	1886
Campbell, Edw. R.	Bellows Falls,	1887
Clarke, J. M.	Burlington,	1888
Brown, H. S.	St. Johnsbury,	1889
Jenne, J. N.	St. Albans,	1890
Caverly, C. S.	Rutland,	1891
Wilder, H. R.	Swanton,	1892
Bisbee, A. B.	Montpelier,	1893
Linsley, J. H.	Burlington,	1894
Branch, C. F.	Newport,	1895
Stoddard, F. R.	Shelburne,	1896
Rogers, Lyman	Bennington,	1897
Lawton, S. E.	Brattleboro,	1898
Crain, M. R.	Rutland,	1899
Huntington, W. D.	Rochester,	1900
Wheeler, J. B.	Burlington,	1901
Pond, E. M.	Rutland,	1902
Bryant, W. N.	Ludlow,	1903
McSweeney, P. E.	Burlington,	1904
Chandler, M. L.	Barre,	1905
Hawley, D. C.	Burlington,	1906
Gorham, G. H.	Bellows Falls,	1907
Peck, C. W.	Brandon,	1908
Havens, W. L.	Chester,	1909
Tinkham, H. C.	Burlington,	1910

AN EPITOME OF CURRENT MEDICAL LITERATURE.

Rambaud (*New York Medical Journal*, April 29th), in a discussion of what has been accomplished in the diagnosis and treatment of rabies, says:—"At first we had as the only resort to clear up the mystery experimental inoculation. When a dog had been killed, after having shown no symptoms of rabies, or only suspicious symptoms, we had to take a piece of its brain to inoculate guinea pigs and rabbits. The process was slow, for the inoculated animals could show no symptoms for from ten to fifteen days or more. This test, however, has always been absolutely positive and trustworthy; it is now the only infallible one. In 1900 Van Gehuchten and Nelis found in rabies microscopical lesions which are quite specific, if not in nature, at least in their location. The characteristic changes in the pyramidal cells of the cerebro-spinal ganglia enabled us to make a correct diagnosis in at least eighty-five per cent. of the cases. In 1903, Negri helped to make the diagnosis of rabies still easier for laboratory workers; the bodies described by him and which now bear his name, are present in ninety per cent. of the cases of rabies in dogs and other animals. In the remaining ten per cent. negative cases we still have to resort to experimental inoculation.

I. The laboratory has "made good" and when an uncertain or no diagnosis was made during the life of an animal submitted for examination, it can within a few hours, in ninety per cent. of the cases clear up the case.

II. The Negri bodies when present, prove in 199 cases out of 200 that the animal was rabid. Their absence means that, with a probability of ninety per cent., the animal was not rabid. Then, experimental inoculation will settle the case within twelve to twenty days.

III. The bite of a rabid dog is harmful to man in proportions varying from ten to ninety per cent., according to different conditions.

CONTROL OF UTERINE AND ADNEXAL PAIN.

C. A. L. Reed, Cincinnati (*Journal A. M. A.*, March 25), describes the nervous relations of the uterus and adnexa with special reference to the control of autonomic pain originating in these organs. By autonomic, he means the expression of that pain in some superficial muscle or muscles, rather than in the viscus in which it has its initial causation. Hence he deduces the following conclusions: "1. Visceral pain, so far as the abdomen, pelvis and thorax are concerned, is expressed chiefly but not exclusively in the autonomic algetic areas in the protective walls covering the respective viscera, such algetic areas corresponding in extent with the peripheral distribution of the autonomic nerves coincidently with the peripheral distribution of the respective spinal nerves in the muscles and subserous connective tissue. 2. These distributions can be generally determined clinically by determining the area of parietal hyperalgesia. 3. The pain itself, consisting chiefly of hyperexcitation of muscle irritability, can be partially and, as a rule, entirely, inhibited by inhibiting the muscle sensibility in the hyperalgetic areas. 4. The same principle applies to the peripheral control of pain originating in the parturient uterus, with the difference that the infiltration of succeeding muscle zones must be practiced with the corresponding advance of the delivery." He describes his technic but disclaims any advocacy of its use as supplanting the removal of the cause.

THE OPEN TREATMENT OF FRACTURES.

S. D. Van Meter, Denver (*Journal A. M. A.*, March 25), remarks on the unsatisfactory results too often obtained in the treatment of simple fractures, especially of the femur and humerus, and the modern tendency of surgeons to adopt a more radical procedure in these cases; he also reports several cases. The devices for the open method are numerous, but they may practically be divided into two classes—those to be removed after the repair of the fracture and those to be left *in situ*. The former have the apparent advantage of not leaving any foreign body in the tissues, but he thinks that this danger has been greatly overestimated and that it does not counterbalance the danger of infection from the method. Moreover, it is a physical impossibility to secure perfect immobility with these appliances and their external portion makes dressings more difficult and are more liable to cause pain from ac-

cidental touchings, etc. Of the apparatuses to be left *in situ* none, he says, is to be compared to the steel plate devised by Arbuthnot Lane. These plates seldom cause irritation and if necessary can be easily removed. Some points, however, are worth considering in their use. Not to mention asepsis and careful handling of the soft tissues, the time of operation is to be considered. Generally it is better to wait until the devitalizing effect of the traumatism has passed and the tissues have obtained a certain degree of resistance to infection. The proper selection of the drill is of some importance. One which will make a hole just large enough to allow the screw to be driven without risk of splitting the bone is best. The Lane forceps are best for holding the bone in position, but the ordinary forceps will suffice. A fair trial of the open method will, Van Meter thinks, justify the following conclusions:

"1. The open treatment of fractures insures practically anatomic reduction.

2. We have overestimated the danger of making a compound out of a simple fracture.

3. The Lane plate is the simplest and most efficient fixation device yet designed.

4. It insures immediate immobilization, which in turn means rapid repair and reduction of pain to a minimum.

5. Its application is easier and requires less mutilation and smaller incision than the use of wire.

6. It is a great aid in the management of compound infected fractures.

7. Direct mechanical fixation of fractures greatly simplifies after-treatment.

8. The *x*-ray has shaken our confidence in manual reduction and will force us to more accurate methods."

TONSILLECTOMY.

G. Sluder, St. Louis (*Journal A. M. A.*, March 25), describes a method of tonsillectomy which he has not seen heretofore published. The essential and distinctive feature of this method is the fact that it moves the tonsil completely out of its normal bed, forward and upward, and utilizes one of the anatomic markings of the lower jaw as a vantage point for forcing it through the aperture of the guillotine. The instrument used is what is called the Mackenzie guillotine, though it was originally devised by Physick in 1827; Sluder modifies this by making the aperture elliptical instead of round, with the longer diameter transverse to the handle of the instrument, the usual cutting edge being left dull, as that causes less bleeding than a sharp edge. He describes the anatomic position and relations of the tonsil at length, particularly its relation to the alveolar eminence immediately behind the last tooth. This is especially prominent in the young child. To use this prominence the tonsil should be moved forward and upward, which is permitted by the elasticity of the soft parts, and brought up onto a motionless hard hump in a way that renders it not difficult to place the blade of the guillotine at its base. The eminence is then sometimes found to be all that is required to hold it for a perfect adjustment of the instrument, which is done by pressing it against the bone. The prominence of the eminence then stuffs the tonsil through the aperture. If firm, the tonsil is manipulated without difficulty but if it is soft, large and flat and imbedded, care and dexterity must be exercised to secure it entire. With Sluder's method the tonsil must be approached at an angle approximating 45°, which requires the shaft of the instrument to cross the mouth entirely from the opposite side but has the advantage of leaving the lateral portion of the field of operation open to view and of using the fingers of the opposite hand. The details of the procedure are given in full. The method, he says, will be found to be satisfactory under all usual conditions, allowing for the variation of the jaws according to age. The imbedded tonsil, he says, is usually removed as easily and quickly as the protruding one. No loosening of the pillars is required, because he prefers to take a little of the anterior one. In skilled hands the operation requires only a few seconds and the shock, he thinks, is less than in a longer operation. Stumps of tonsils left from previous operation are also easily removed by this method as a rule.

PLASTER BANDAGING.

The plaster jacket has decided advantages in hospital and dispensary treatment of Pott's disease and it is usually the custom to apply it by the Sayre suspension method. This, however, has its shortcomings and does not produce hyperextension, though it is a simple and effective way of securing immobilization. P. W. Roberts, New York (*Journal A. M. A.*, March 25), describes and illustrates an apparatus of his devising which consists of an automobile jack, to the movable upright of which is attached a horizontal bar and to the base two foot pieces to insure lateral stability. On the bar are two shaped wire loops over which are pinned the ends of a muslin bandage. It is used as follows: "The patient lies on the back and a two-inch muslin bandage is passed under the body, bearing exactly on the kyphos; the bandage is padded generously the whole breadth of the body. This form of padding, which is a departure from ordinary practice, is absolutely essential to avoid excoriations. Felting at least one-quarter of an inch in thickness is the best material for the purpose. The ends of the bandage are pinned over loops on the horizontal bar and the jack is set in motion, a hip-rest and shoulder-rest being placed in position as the patient rises. The desired degree of hyperextension having been obtained, the usual pads to protect the spinous processes and iliac prominences are placed in position. The plaster bandage is started at the pelvis. When the suspending sling is reached, the bandage is crossed over the body from the lower border of one upright to the upper border of the other. To give strength to the front of the jacket several folds of plaster bandage are passed longitudinally between the muslin supports, being carried down on either side of the sling as it leaves the body. When the cast has hardened the sling is cut away close to the jacket. It is unnecessary to close the remaining slits except for appearance, as they in no way interfere with the strength of the jacket." He has applied jackets with this apparatus on patients varying in age from three to forty years and in weight from thirty to one hundred and forty pounds, and all have been apparently comfortable. While it is too early to report a convincing series of cases, he thinks that a persistent use of the jack and sling method with frequent changing of jackets will show a real correction of deformity in a large percentage of long-standing cases.

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THERAPEUTIC NOTES.

Intestinal Atony.—A considerable portion of all cases of intestinal indigestion can be traced to muscular insufficiency and deficient circulation in the submucous coats. Treatment directed toward increase of muscular activity is all important, and in conjunction with massage and other mechanical forms of tonic stimulation, Gray's Glycerine Tonic Comp. has given uniform satisfaction.

The Satisfaction of Successful Therapy.—There is always a great and lasting satisfaction to be derived from administering a remedy and obtaining the result desired or expected. Aside from the therapeutic and more or less material benefits, the gain in medical confidence from standpoints of both practitioner and patient, is always considerable. Few remedies have given rise so consistently to the satisfaction of therapeutic dependability as Gray's Glycerine Tonic Comp. For a good many years thousands of physicians have been using this reliable tonic, with confidence born of almost invariable success, and to say that medicine and medical practice have been benefited and strengthened thereby is not only to state the truth, but to give deserved credit to a worthy product.

After Operations.—After even simple surgical operations patients are almost always menaced by the manifold complications that are superinduced by the nervous or more or less debilitated state that is inevitable. Tonic treatment is always indicated, and nothing at a surgeon's command will give more substantial satisfaction to all concerned than Gray's Glycerine Tonic Comp. Under its tonic and reconstructive influence the vital functions are restored to normal activity and the nerve balance coincidently re-established. Thus does a patient receive the fullest benefits from surgical treatment and without the delay that so often is the despair of surgeon as well as patient. The lesson to every medical man doing surgical work is obvious, and the aid he can always secure from Gray's Glycerine Tonic Comp. after operations imposes an obligation not to be ignored.

Some Points on Iodine Therapy.—In administering iodine, that product will naturally be chosen which introduces in the tissues of the body the most effective dosage and which is freest from the possibility of iodism.

In syphilis, particularly, in which iodine must be administered for long periods of time, these are features that should determine the choice of preparation to be ordered.

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physician employing iodine products. A sample bottle of IDONEEN with literature, may be had by addressing The Idoneen Chemical Company, Cleveland, Ohio.

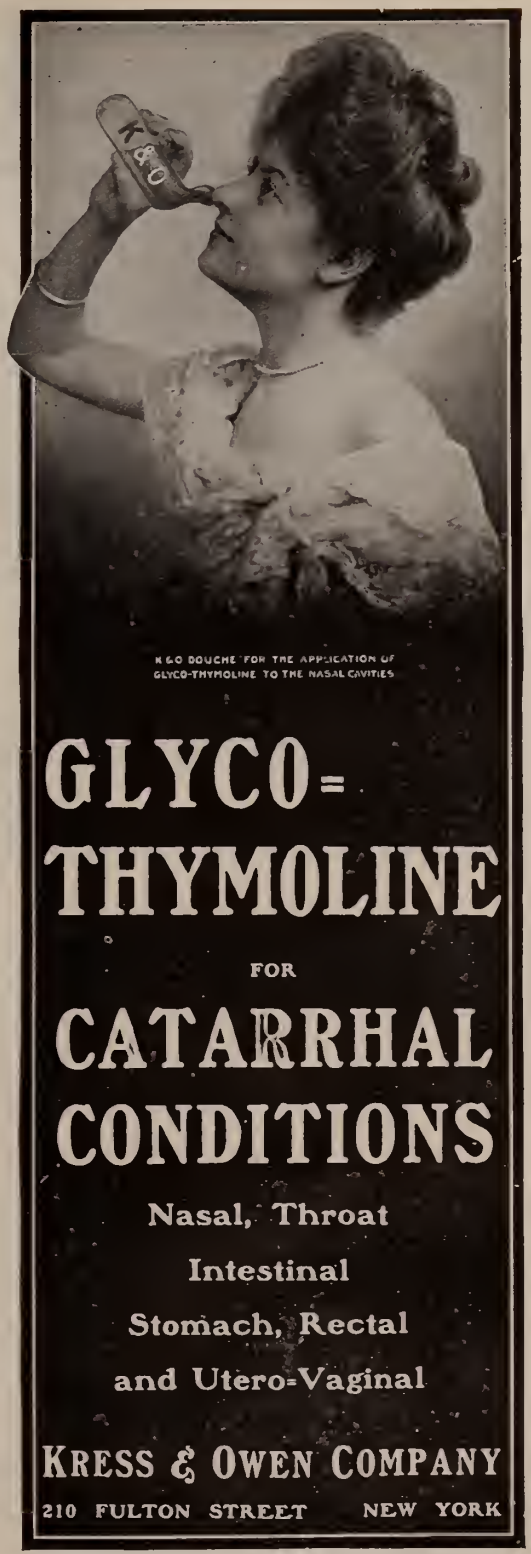
Important New Preparations of Parke, Davis & Co.—General practitioners will be interested in the announcement by Parke, Davis & Co. of two new products of their chemical laboratories. Proposote and Stearosan are the names chosen to designate the preparations in question.

Proposote is creosote in combination with phenylpropionic acid. It is a straw-colored, oily liquid, neutral in reaction, nearly odorless, and having a slightly bitter taste suggestive of creosote. It is insoluble in water, but is slowly decomposed by alkaline liquids. The indications for it are the same as those for creosote. Tubercular cough following pneumonia, the cough of pulmonary tuberculosis, acute and chronic bronchitis, purulent bronchitis, abscess of the lung, asthma, and bronchitis complicated with Bright's disease are among the pathological conditions benefited by its administration. Being insoluble in acid media, it passes through the stomach unaltered by the gastric juice, to be slowly broken up by the alkaline fluids of the small intestine, hence may be given in gradually increasing doses until the desired effect is obtained. During prolonged administration, as is well known, creosote disturbs digestion, impairs the appetite, and often causes nausea and vomiting. Proposote is free from this objection.

Stearosan is santalol combined with stearic acid. It is an odorless, tasteless, light-yellow oily liquid that is insoluble in water and dilute acids but is slowly broken up by alkaline fluids. The pathological conditions in which it may be employed with advantage are precisely those in which santal oil has long been used—chronic gonorrhea, cystitis, urethritis, vaginitis, pulmonary disorders such as chronic bronchitis, bronchorrhea, etc. It possesses therapeutic properties fully equal to those of santal oil, over which it has the important advantage of being practically without irritating effect upon the stomach. The explanation of the latter fact is that the preparation is not attacked by the acid gastric juice, but passes into the small intestine, where it is broken up or emulsified by the alkaline fluid and absorbed without difficulty. The distressing eructations and loss of appetite attendant upon the administration of santal oil do not occur when Stearosan is given.

Both Proposote and Stearosan were thoroughly tested clinically before being offered to the medical profession, and practitioners may be assured of their therapeutic efficacy in all cases in which they are indicated. They are supplied in 10-minim elastic gelatin globules, boxes of 25 and 100, and may be obtained through retail druggists generally.

The Malarial Anemic.—Whether or not the much maligned mosquito is the intermediate host of the plasmodium malariæ, certain it is that the campaign waged for this insect's extermination has not entirely ridden the country of the blood infection for which it is responsible. In addition to the chills, fever and sweating characteristic of the acute forms of the disease, which require immediate antidotal



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treatment, the physician must recognize the serious injury to the blood itself, due to the invasion and actual destruction of the red cell by the paludal organism. After the subsidence of the acute symptoms, a distinct aglobular anemia is the result, and unless this is corrected, a reinfection is extremely likely. To prevent this and to avoid the development of a chronic malarial toxemia, a vigorous blood building campaign should be instituted just as soon as the febrile movement is controlled. For quick and efficient reconstruction of the partially disintegrated red corpuscles and to encourage the rapid formation of new and functionally active erythrocytes, Pepto-Mangan (Gude) is especially serviceable. Steady treatment with this potent hematinic, for a period of several weeks, is practically certain to restore hemic integrity and place the patient in a position to ward off fresh infection, or quickly throw it off if invasion occurs. When the physician believes that arsenic is needed in the after-treatment, this drug can be readily added to Pepto-Mangan (Gude) preferably in the form of Fowler's Solution.

Relief from Cerebral Agitation.—In most instances the actual causative factor of extreme cerebral agitation is beyond the physician's power to correct, and all he can hope to accomplish with the means at his command is to pacify and procure for the suffering patient sleep. For this purpose, he can use no agent with more definite properties, nor one that is safer as a soporific, than Daniel's Concentrated Tincture of Passiflora Incarnata, or as it is now known to the profession, PASADYNE (a name adopted for convenience and to prevent substitution). PASADYNE will tranquilize the patient and bring about a deep, restful sleep, proving more efficient than chloral or the bromides. A still further advantage is its freedom from direct or indirect dangers—such as depression of vital functions or habit-formation. A sample, sufficient for trial, will be furnished any reputable medical practitioner, if the request is sent to the Laboratory of John B. Daniel, Atlanta, Ga.

Tissue Nutrition in Grippal Convalescence.—If grip were free from treacherous sequelae, the physician could dismiss his grip patient after the acute period of the disease had passed, feeling sure that an uneventful return to health would soon follow. But these sequelae strike when least expected. The heart muscle fails, with resulting acute dilatation; or a tuberculous taint manifests itself. If it were made a routine practice to insist that grip convalescents take a tissue food of proven merit, such as Cord. Ext. Ol. Morrhuae Comp. (Hagee), the complications and sequelae of this infection would not be met so frequently and in less distressing form. Cord. Ext. Ol. Morrhuae Comp. (Hagee) contains the very elements the drained system needs to restore it to health and vigor, the contained extractives of the cod liver oil, coupled with the hypophosphites of lime and sodium, supplying this need in admirable manner.

The Perils of Bronchitis.—It is for the aged and anemic, that bronchitis has grave perils. The possibility of a severer infection grafting itself on the primary bronchial inflammation at once points to

the wisdom of instituting treatment whose purpose will be to enrich the blood stream and add resistance to the tissues of the body.

NUTROMUL (Brown's Cotton Seed Oil Emulsion) possesses a peculiar fitness for this office; the prescriber may feel sure that the object of its administration will be fulfilled. NUTROMUL contains a large proportion of cotton seed oil, which is at last enjoying high favor as a reconstructive, and also the hypophosphites of lime, soda and manganese. It will aid materially in warding off the perils of bronchitis. A sample of NUTROMUL may be obtained by addressing Nottoc Laboratory, Atlanta, Ga.

What Is Best in Tonics?—Many people, and perhaps a few physicians, are inclined to consider the terms "tonic" and "stimulant" as more or less synonymous and interchangeable. This, of course, is not the case, although some agents employed medicinally may partake of the properties of both and be properly known as "tono-stimulants." Strychnia, for instance, is a heart stimulant but may also be considered as a general nerve and systemic tonic when given in small and frequently repeated doses. While a stimulant alone is sometimes indicated in conditions of emergency, its long continuance almost certainly produces an after depression. It is sometimes advisable, however, to give stimulant and tonic together in conditions of serious general depression, the first to "boost" the vitality and the second to hold it at the point to which it has been raised and to restore the general tone of the organism. An ideal combination of this nature is Pepto-Mangan (Gude) to which has been added the proper dose of strychnia, according to indications. This combination is especially serviceable in the convalescence of exhausting diseases such as Typhoid Fever, Pneumonia, La Grippe, etc. It is also of much value when the heart needs support and the general system requires upbuilding. Pepto-Mangan restores vitality to the blood by increasing the number of red cells and the percentage of hemoglobin, and the strychnia assists in rendering the combination a peculiarly efficient general bracer and permanent reconstituent.

Chronic Leukorrhea.—Fifteen months ago Mrs. X. came to me for treatment, giving the following history: Six years previous she had a miscarriage, since which she had been troubled with a profuse leukorrhea of a very foul odor. At her menstrual period she suffered greatly and flowed excessively. On examination the cervix was found to be nearly four times its normal size and so badly eroded as to have every appearance of a cancer and had been mistaken for such by one physician. The uterus was soft and boggy and very much enlarged. She had been to the hospital on two occasions and each time had been curetted, but this seemed only to aggravate the general condition. For over a year I treated her with every means at hand but to no purpose. I was making preparation for an operation, which would have meant the removal of the uterus, when my attention was drawn to Glyco-Thymoline and I determined to give it a thorough trial before operative measures were to be further introduced. An intrauterine douche of Glyco-Thymoline in a 25% hot solution was administered and lamb's wool tampons saturated with pure Glyco-Thymoline were used. She began to improve from the first application. The leukorrhea became less and the odor disappeared entirely. The cervix took on a healthy look. The uterus decreased in size and became firm; in fact she is now nearly well after nine weeks' treatment with Glyco-Thymoline.—Dr. C. E. Brandenburg, New York City.



A New Organic Silver Product.—Syrgol, an oxyalbuminate of silver, has come into wide favor lately in Europe as a bactericide, and is now being introduced into America.

Promptly destructive to the gonococcus, Syrgol has been especially recommended for use in gonorrheal infections, rigid clinical tests showing that it is highly efficient for this purpose. Besides its marked bactericidal properties, SYRGOL possesses the added advantages of freedom from irritation, and comparative cheapness. It is potent in solutions as weak as one-fourth per cent. SYRGOL is prepared in the laboratory of the A. G. vorm. B. Siegfried, of Zofingen, Switzerland, and is being introduced into America by Mr. Julius Schmid, Astoria, New York, who will be glad to supply American physicians with a liberal supply sufficient to test its merit. Syrgol is carried in stock by all wholesale druggists.

Exhibitors at the State Society.

Lea and Febiger's exhibit of books was prominent as usual. Among their new publications this year are "Modern Treatment," 2 vols., edited by Hare and a work on the "Stomach;" written from a medical standpoint by Aaron—new editions of Simons' "Chemical Diagnosis" and Treves' "Surgical Anatomy" were also on



the stand. Unfortunately their principal fall publication did not arrive in time for the meeting. This will be a work on surgical treatment by Meyre and Burghardt, both of whom stand in the foremost ranks of their profession in London.

Treatment of Basedow's Disease.

A. Saenger lays down as a rule that every case of Basedow's disease should at first be treated internally, but if after a reasonable time the improvement is not so pronounced that the patient can resume work, the case should be turned over to the surgeon. The first principle in internal treatment is to create favorable surroundings and to send the patient to the mountains wherever possible. The diet should be non-irritating, preferably vegetables. Many drugs have been recommended but not one is infallible. Formerly, iron, quinine, atropine, ergotin and arsenic were popular. Kocher prescribes sodium phosphate 2 to 10 Gm. daily, while Ebstein mainly treats the coprostasis. The cardiac disturbances are not benefited by digitalis unless some myocarditis is present. Very good results have been seen by the author from the use of antithyroidin (0.5 to 2.0) and rodagen (5.0 to 20.0), while preparations of other ductless glands, as the thymus and hypophysis, are generally ineffectual. Thyroid preparations are dis-

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tinctly contraindicated as they will usually aggravate the condition. A large percentage of patients are benefited by rest and forced feeding alone. The surgical treatment is discussed by P. Sudeck, who states that the mortality has now been reduced to 1½ to 5 per cent., while probably 75 per cent. or more of the patients are absolutely cured. The figures will be still more favorable if the cases come to operation sooner. When there is marked tachycardia and cachexia, the patients should be treated internally for some time, as the greatest post-operative danger is failure of the heart. This danger is also present if local anesthesia is employed, but more favorable conditions can be created by first giving veronal or a subcutaneous injection of pantopon.—*Muench. med. Woch.*, April 18, 1911.

RELATION OF THE THYROID TO THE FEMALE GENERATIVE ORGANS.—Goodall and Conn (*Canadian Med. Asso. Jour.*) mention a case showing that pelvic disease was the cause of thyroid enlargement. Shortly after the onset of pelvic pain and discomfort, the patient noticed a gradual enlargement of her thyroid, dyspnea, tachycardia and other symptoms of thyroid disease. After a while an operation was performed and when the abdomen was opened the pelvic disease proved to be a chronic tuberculosis, involving tubes, ovaries and uterus extensively. All these organs were removed. About twelve days after the operation, the authors noticed that the thyroid was decreasing in size. This continued and six months after the operation the woman

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was entirely well. The thyroid had enlarged synchronously with the onset and progress of a grave disease of the generative organs and with the removal of the pelvic disease the goitre visibly diminished to dimensions below the normal. The authors believe that there can be no hesitation, then, in claiming that the pelvic disease was the cause and the thyroid enlargement the effect. This led them to investigate the subject further, clinically and experimentally, and the following conclusions represent the results of this work:

(1) The relationship between the female generative organs and the thyroid is very intimate. (2) The generative organs which stand in such close relation with the thyroid are the ovaries. (3) That the uterus is devoid of any influence on thyroid activity, except in that its function may affect the ovarian function, and through this the thyroid. (4) Thyroid activity is in a measure under the governance of ovarian activity. (5) Ovarian hyperactivity is a frequent cause of the development of exophthalmic goitre. (6) Diminished or absent ovarian activity usually coincides with myxedema. (7) Puberty, menstruation, pregnancy, lactation and the menopause exercise a profound influence on thyroid secretion. (8) Thyroid and ovarian secretion do not supplement each other; they neutralize each other. (9) The ovary has two secreting structures—the corpora lutea and the interstitial cells. (10) It is the secretions from the latter which seem to bring the ovary and the thyroid into such close relationship.

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Israel (*Berliner klinische Wochenschrift*) says that it is with extreme rarity that a cavernous tumor of the liver is subjected to surgical treatment. The reason for this is that these tumors are, as a rule, small and benign. Occasionally, nevertheless, they reach a large size, and on account of the pain and pressure they produce call for surgical measures. The first operation of this character was done by Eiselsberg in 1893, and altogether six operations have been performed.

He reports a case in a man aged thirty-nine years, who had for a year noticed a mass in the epigastrium which during the past four months had become a burden on account of pain, pressure on the stomach, and vomiting. In the epigastrium there was an hemispherical mass larger than a fist, which was located partially behind the left lobe of the liver and extended midway between the ensiform and the navel. A pathognomonic sign which it manifested was that when pressed upon it disappeared, and when pressure was relieved it reappeared. A diagnosis of cavernous tumor was thus established, and operation performed.

This is the first case in which diagnosis has been made prior to operation. Incision was made in the middle line, and at once a large dark-bluish-red tumor presented. The liver was mobilized by cutting the suspensory ligament, and in this way the liver lobe was brought into the wound. The left triangular ligament and the coronary ligament were also cut through. An incision was made between the left and the right lobe of the liver at the lower portion, after applying a series of through-and-through silk sutures. When the thick upper portion of the liver was reached a trocar was passed through the liver from front to back, the stylet removed, a rubber tube passed through the cannula, the cannula removed, and the tube tied; in this way the left lobe of the liver was removed in a bloodless manner. The end of the rubber tube was carried into the abdominal wound and the wound closed around it. Primary healing occurred except where the tube was placed. At the end of four days the knot was cut and the tube withdrawn. The patient is cured and his troubles removed.

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The Medical Department of the University of Vermont will appreciate it very much if any of the Alumni can furnish catalogues of the Medical Department of the following dates to complete the files, 1857-66-7-8-9-71 and 73. These may be sent to the Dean.



Spasm of the Glottis and Tetany in Association with Hypertrophied Thymus.

The author reports the case of a child who was brought to the hospital because of violent attacks of spasm of the glottis. In addition he was rachitic and presented the characteristic phenomena of tetany. There was no clinical evidence of hypertrophy of the thymus. Two days after admission the child died. At the autopsy the thymus, which weighed 25 gm., was found protruding above the level of the clavicles. The parathyroid glands showed apoplectiform lesions. This case, the author concludes, would seem to support the theory that thymic hypertrophy plays a rôle in the pathogenesis of spasm of the glottis.—Chatelin (*Société de Pédiatrie; La Médecine pratique,* May, 1911).

Effect of Oatmeal in Diabetes.

The peculiar effect of oatmeal, of reducing the output of sugar in diabetes, is not due to any ferment or other active principle present in the oats, for Magnis-Levy could obtain the same results with the pure oat flour, while experiments conducted with the meal minus the flour were all negative. The properties are not specific for oat-flour for the same effect, though not so pronounced, can be obtained with the flour of other cereals. It seems that the absence of meat in the diet plays a prominent role. In mild cases (such that can tolerate 60 to 80 gm. bread), the oatmeal cure is not necessary, yet it is often of advantage to give the cereal for a few days, to increase the tolerance. The cure is also indicated, independent of the severity of the diabetes, where there are dyspeptic disturbances and in surgical cases. The typical cure requires a few days of strict diet with about 50 gm. of bread, then one or two days of green vegetables and fat, then 3 to 5 days of 250 gm. oatmeal with 3 or 4 eggs, butter, bacon, red wine and cognac. This is followed by the vegetable and the strict diet in reverse order. Often 3 or 4 courses of this kind are necessary and since a strict control of the excretion of urine is required, such patients are better off in a sanatorium.—*Berl. klin. Woch.,* July 3, 1911.

Sudden aneuria may be the first symptom of a carcinoma of the cervix in an apparently healthy woman.—*American Journal of Surgery.*

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Vermont Medical Monthly.

VOL. XVII. DECEMBER 15, 1911. NUMBER 12

ORIGINAL ARTICLES.

A STUDY OF 350 CASES OF PULMONARY TUBERCULOSIS AT THE VERMONT SANATORIUM.

Since the opening of the Vermont Sanatorium at Pittsford in December, 1907, 350 new patients have been admitted. Some of these cases were included in a report submitted to the Vermont State Board of Health in January, 1910. Those discharged during the year 1909 and 1910 were considered in the second and third annual reports of the sanatorium.

With the greater amount of material now accumulated, it would seem that a more exhaustive and critical study of our cases might offer some practical lessons as to the disease in general and particularly the tuberculosis conditions in Vermont.

While this material is not very extensive, as compared with that of some older and larger institution, it represents a wide range of social conditions and offers a broader clinical aspect perhaps because the cases have not been confined to a narrow class. Though the sanatorium was founded as a charitable institution for those unable to meet the charges of more expensive resorts, the financial condition of applicants has not been always weighed very strictly where there were enough vacancies. Nor has it been found practicable to select only incipient or early cases for treatment, as was the original purpose, many moderately advanced and even far advanced cases having been received.

In studying our records it was found necessary to leave out of consideration certain interesting and perhaps important features which might have some bearing on the subject, for the reason that some of the earlier histories were incomplete. Nor has it been found possible in a work of this scope to bring out all the relations of the data at hand, so that some special questions must be made the subject of future study.

Our patients were drawn from all the different localities of the state, from the large valley towns, and the more remote hill settlements. A study of the table of geographical distribution shows that the number of patients from each county is fairly proportionate to the size of the population. The larger cities naturally furnished a greater number of cases but not in relative excess of number of inhabitants. There do not exist in any of them, such conditions of crowding as are found in the poorer quarters of New York, Philadelphia or Chicago for example; in fact, some of the smaller cities of our state, with better water supply and drainage systems are perhaps safer and healthier places to live in, than many rural communities. So far we have not been able to note the prevalence of tuberculosis in any particular section referable to local climatic or soil conditions, though the vicinity of the lake apparently shows an increase in catarrhal conditions and acute exacerbations during the period of the spring thaws. Such manifestations are, however, often referable to grippe and other secondary infections, which so commonly occur during this season of the year. Thus we find that the number of applications from all parts of the state has usually been highest during the spring months.

The most favorable time for treatment has been found to be from the end of August to the middle of January. During this season the greatest gains are made.

As the table of nativity shows the majority (68.6%) of our patients were natives of Vermont and 13.75% of the United States outside of Vermont with about 6% Canadian by birth and the remaining 10.28% natives of various European countries: 2.85% Irish, 2.28% Italian, 1.42% Scotch and the remainder scattered among various nationalities.

Considerable attention has been paid by many observers to the question of racial predisposition to tuberculosis. Without knowing the proportion of each race to the population of the state as a whole, our figures would not offer any definite information. With the great majority of the inhabitants belonging to the Anglo-Saxon race and such a large proportion of our patients being native born, we would naturally expect to

find more Anglo-Saxons among our patients than any other race, and the fact that they comprised 68.5% of our cases, does not indicate that they are more liable to tuberculosis infection than the Celtic or Latin race. The Celtic race is generally considered more susceptible and the 14% is largely in excess of the 4.27% of the Scotch and Irish born. At the same time it must be considered that many of the native born are of Scotch or Irish descent and until recently very few of our records contained data as to the parental nativity.

In the same way we can account for the 8.6% of Latins with only 2.28% native Italians. Many of the Latins are also referable to French of Canada and descendants of French-Canadian who have settled in Vermont.

There were more women (57.86%) than men (43.14%). Of the 151 men 71 or 47% were single, 73 or 47.6% married and 7 or 2% widowed or separated. Of the 199 women 105 or 52.7% were single and 88 or 44.7% were married, and 6 or 3.02% widowed or separated. In other words there were about as many married as single men, but more single women than married ones.

As family cares and anxieties and particularly the strains of pregnancy and parturition are commonly regarded as important predisposing causes of tuberculosis, these figures are somewhat surprising. As a matter of fact, our knowledge of circumstances in individual cases would lead us to believe that these figures are misleading, an explanation being that in many instances married women have been unwilling or unable to leave their household duties, until the disease was too far advanced, just as in many instances it has been found impossible to pursuade such patients to remain at the sanatorium long enough to do any permanent good. Another explanation may be found in a study of the table of ages according to decades for each sex. We find here that 39 women were under 20 and 118 under 30 years of age, 137 being between 20 and 40 years, many of the women being below the average age of marriage. In the case of men, we find more than 75% between the ages of 20 and 40.

The question of occupation and its relation to tuberculosis has long been the subject of careful study. In our own cases we find that 285 or more than 80% followed an indoor occupation. This fact may also account for the larger number of women patients, as these are usually confined indoors more than men, either in their homes or at their work. Forty or 11.42% of our patients were employed in one of the dusty trades. These included stone cutters (granite, marble and slate workers) tool grinders and operatives in woolen mills. For the purpose of studying the different occupations more in detail men and women have been tabulated separately. Among men the three largest groups are granite cutters (24), office workers (23), and farmers (18).

There is hardly time to discuss in detail here the special feature of tuberculosis among stone cutters. This has been made the subject of a careful study published by the United States Bureau of Labor in 1908. It has long been recognized that the inhalation of stone dust produces a condition of fibrosis in the lungs. Whether such fibrosis is actually tuberculous in character from the onset or whether it favors the subsequent development of a tuberculous process, in the presence of infection with tubercle bacilli, must be made the subject of future study. It is difficult to account for the fact that there were so few marble and slate workers as compared with granite workers. It may be because the granite dust is harder and more resistant, possibly also because it contains a great deal of steel dust, as would be indicated by the rapid wearing of the tools. Possibly it is the steel itself that is the more significant factor.

Among the office workers it is easy to account for the prevalence of tuberculosis. The indoor life, confinement in poorly ventilated offices, the stooping attitude and the lack of sufficient exercise to keep up the muscular and nervous tone, are unquestionably all important factors.

The large representation of farmers among our sanatorium patients would at first sight seem contrary to our accepted views as to the benefit of outdoor life. But there are many features in the lives of many farmers that offset this advantage. The long hours and hard physical work with perhaps insufficient proteid diet lower the physical vigor and power of resistance. In order to keep warm the houses are kept tightly closed, the bed room windows are in many instances never opened, and in only too many instances the water supply and drainage are not above suspicion. In other words, the living de-

rived does not in many instances provide adequate compensation for the excessive amount of energy required, and once the disease gains a foothold in the house, the absence of sufficient sunshine and ventilation favor the transmission of the disease to other members of the family.

Among women the largest group was that of houseworkers. This classification is probably too broad including as it does, nearly all married women, many unmarried women who simply work in their own homes and some of whom have practically no occupation; besides those who actually work out as servants in hotels, institutions and private households, so that the actual housework itself is not the only significant feature.

In the case of married women there are the household cares and the bearing of children which we referred to above. Many of these women are farmers' wives and what was mentioned about farm life applies to them also. They share the long hours and the unsanitary conditions where they exist. Their burden becomes heavier still during the harvesting and planting seasons when extra farm labor must be lodged and fed, and when at the same time it is most difficult to obtain suitable help for the work in the house. In some instances the dietary selected is not the most suitable to supply the demands of energy.

The second group of women comprises 27 office workers. These included the same kind of work as in the corresponding class of men and the same factors are of course present also.

Following the office workers was a group of 25 women classed as students. As this included some young girls still at school besides high school and college students, many would fall into this group simply on account of their age, being too young for any other occupation. However, the ventilation of our school rooms is an extremely important problem and one that deserves even more attention than it has received. It is unfortunate that outdoor schools have not been carried out more extensively than they have. If it is necessary to confine our growing children for the years of greatest development during the brightest part of the day, we are placing a tremendous tax on education.

That the confinement in school rooms is a very real factor in the causation of tuberculosis is shown by the group of teachers among our women patients. There is, of course, considerable nervous and mental strain but with the longer periods of rest each week and greater periods of vacation each summer one would suppose that teaching was a healthier occupation than that of needle women for instance, who comprised 4% of the 199 women. This group included dressmakers, tailors, seamstresses and milliners.

It is rather surprising to find such a small number of factory operatives, as these classes of workers are generally considered very liable to tuberculous infection. The fact might be explained however, that many women and girls following these less remunerative occupations would be unable to meet even the moderate charges of sanatorium treatment. There are probably many patients among this class of workers who have never applied for admission. It would be important to know also what percentage of factory workers do actually exist among the whole population of the state.

The remaining occupations of our patients were so scattered as to present no points of interest.

The various predisposing causes other than occupation have been summed up and tabulated for all patients, regardless of age, sex, or race. In some cases two or more predisposing causes were noted in each case. As was noted above, 285 patients followed an indoor occupation and 40 patients were employed in dusty trades. In 58 or 16.5% previous illnesses were given. In 75 or 21.42% over work is referred to as a contributing factor. In 19 or 5.42% unsanitary or unfavorable environment is stated as the cause. In 74 or 21.1% heredity, in 16 or 4.6% other causes and 47 or 13.42% no cause was assigned.

Regarding the significance of dusty trades we have spoken at some length above. It is easy to understand how the constant presence of irritating particles causes a congested condition of the bronchial and alveolar mucous membrane favoring the entrance of bacilli into the submucous tissues.

There was a family history of tuberculosis in 183 or 52.2% of the cases. This includes 5 cases where the disease had occurred in cousins. In 7 cases the disease had existed in the husband or wife also. Considering the fact that this relationship might offer the greatest opportunities for infection, this is a surprisingly small number. In 29 cases or 8.28% tuberculosis had existed in the mother. In 23 or 6.6% in the

father and 9 or 2.5% both parents. In 64 or 18.2% the brothers or sisters had tuberculosis. In 25 or 7.14% the grandparents had tuberculosis, more frequently the paternal grandparents. In several cases the grandparents on both paternal and maternal sides had been affected. In 25 or 7.14% the paternal uncles and aunts had been tuberculous and in 35 or 10% maternal uncles and aunts were tuberculous. In 4 or 1.1% it was simply noted that there was a family history of tuberculosis, but the relationship was not stated. 167 or 47.7% gave no history of tuberculosis among any of their direct or collateral relatives.

Our records cannot be accepted as complete in regard to previous tuberculous and non tuberculous illnesses, as it has not been until recently that systematic inquiry has been made in this direction. It is very probable however, that the relative frequency of the diseases noted, is correct.

The fact that grippe, pneumonia and pleurisy are mentioned so frequently would lead one to suspect that in some cases such illnesses were in fact, previous tuberculous exacerbations.

The chills, fever and malaise of grippe closely resemble the acute febrile manifestations that accompany fresh extensions of tuberculous processes in the lungs. It is also very conceivable that if a patient is seen for the first time and an examination of the chest discloses larger or smaller area of consolidation, that an acute pneumonic tuberculous process or an old tuberculous consolidation with a zone of recent active infiltration, might be mistaken for an acute lobar pneumonia, particularly as many of these tuberculous processes are due to mixed infection with pneumococcus or influenza bacillus.

In regard to pleurisy we know how commonly this condition accompanies pulmonary tuberculosis so much so that all cases of chronic pleurisy are commonly regarded as tuberculous in character.

Previous tuberculous disease of other organs is noted in comparatively few instances. Tuberculous lymph nodes were recorded in only nine cases. Tuberculous peritonitis and previous pulmonary tuberculosis each three times. Other previous illnesses occurred in such small numbers of patients each, as to possess little or no significance. As was indicated above, however, these figures refer only to those cases in which it was stated that these diseases had occurred. It is possible that there were many more cases in which previous illnesses had existed.

In none of the cases where poor sanitary surroundings were noted are details recorded as to existing conditions.

One of the most interesting and important features in connection with pulmonary tuberculosis is the source and mode of infection. It has always been held that more or less repeated exposure was necessary in order to effect implantation. That this must be the case is shown by the fact that tuberculosis is on the decrease. If only a small number of incidental exposures and even only a part of the more intimate long continued exposures resulted in implantation or development of the disease, tuberculosis would increase overwhelmingly. 186 or 53.14% of our patients gave a positive history of exposure to infection. In determining the means of exposure patients varied much as to the definiteness and directness of their replies. In many instances several sources of infection were noted and it was impossible to determine the real factor. In 117 or 63% of those giving a positive history of exposure the source of contagion was at home from some member of the family. In 41 or 22% of those exposed fellow workers or friends with whom they had been associated were given as the source of infection; in 14 or 7.2% it was attributed to house infection, that is, the patient had lived in a dwelling previously occupied by a tuberculous patient. In two, infection was traced to cattle and in 7, the history of the patient indicated exposure to infection, but did not state the manner or means of contagion. In 164 or 46.8% there was no history of exposure.

The body weight has been the most interesting physical characteristic noted in our cases. Many individuals go through life without ever attaining their full weight so that we cannot accept their previous average or maximum as standard for them, or consider it a basis for comparison in determining the state of nutrition at time of admission. We have not prepared figures, but it has been only generally observed in our own patients that very few of them had ever reached the standard for their age and height as determined by the New York Life Insurance Curves. We have taken this as a basis for our table of Deviation of Weight from Normal on Admission, and find that out of 334 patients whose weight is recorded 77 or 22.9%

were 10 pounds below weight, 186 or 55.7% were from 1 to 20 pounds below weight, 203 or 15.87% from 1 to 30 pounds below, 35 or 10.4% 31 to 40 pounds below and 6 or 1.8% 41 to 50, and one case more than 50 pounds below weight. In other words, a total of 305 or 91.3% of the cases were below normal weight. A total of 25 or 7.4% were from 1 to 40 pounds above weight. 16 patients had not been weighed or the records were missing. An interesting question in connection with this feature is whether the impaired nutrition is always the result of the disease or whether a condition of impaired nutrition and lowered power of resistance favored the development of the disease.

It has been stated that tall spare people were more liable to tuberculosis than short, stout people. Our table of weight would at least indicate that in the majority of cases they were inclined to be slender. Our table of height showed that there were less men above the average height than those at or below, while in the case of women those who were less than the average height slightly outnumbered those who were at or above the average. Thus of 147 men 65 or 44.1% were 5 feet 8 inches or more and 82 or 55.9% were less than 5 feet 8 inches. While of 182 women 90 or 49.5% were 5 feet 4 inches or more in height, and 92 or 50.15% were less than 5 feet 4 inches in height. In 7 men and 14 women the height was not stated.

Some attention has been paid by some observers to the significance of complexion in tuberculosis. It was noted that out of our cases 202 were dark and 104 were light and 3 florid. In 41 the complexion was not stated. In order to consider these figures it would be necessary to know the proportion of each complexion among the total population. My impression would be that there were more dark complexioned than light complexioned individuals generally, taking the inhabitants of the state as a whole.

Spinal curvature was recorded in 23 cases, in none of these cases however, was there any marked deformity and in most instances patients were unaware of its existence. None of them gave any history of having had any spinal disease or showed signs of inflammation.

In connection with the history of present illness, we found that 82 or 23.9% had been sick less than 3 months, 108 or 31.5% from 3 to 6 months, 84 or 24.5% 6 to 12 months, 48 or 14% from 1 to 2 years and 19 or 5.5% more than 2 years. In 8 the duration of illness was not determined, leaving 342 to be considered.

The first symptoms noticed by the patient varied considerably, the most frequent being cough, which was noted in 119 or 36.6%. Next in order was general weakness or lassitude. This was the first symptom in 69 or 21.6% of the cases. Hemoptysis was the first symptom in 39 or 12%. Pleurisy was the first symptom in 43 or 13.3%. Fever in 20 or 6.2%. In 14 the onset was catarrhal, in 4 laryngeal, in 4 dyspnea was the first sign. In 3 loss of weight was given as the first symptom. In 26 the first symptom was not recorded.

The occurrence of hemoptysis was recorded in connection with 139 or 39.7% of all the patients. This includes those who had hemoptysis before admission and during their stay at the sanatorium, also those who had distinctly streaked sputum.

In 126 or 36% the general appearance of the cases was favorable. In 197 or 56.2% of the cases it was poor. 87 or 25.8% complained of night sweats before or after admission and 171 or 48.8% mentioned pain. The pain in some cases was either sharp or pleuritic and excited by respiration. In other cases there was a distinct tenderness on palpation or percussion. Frequently this area of pain or hyperesthesia corresponded to the side of the pulmonary lesion, or at least was noted on the same side of the chest.

In 44 cases menstrual abnormalities were noted. In 16 there was amenorrhea, three of these being due to operation. In 22 it was simply stated as being irregular. In 2 there was metrorrhagia due to disease of the ovaries, and in 2 menorrhagia without cause being discovered or noted.

In 43 or 15.1% the average maximum temperature recorded for one week was 100 or over and 129 or 49.4% the pulse was over 100 taken under the same conditions. In 24 patients the temperature record and 82 the pulse records were not complete. In other words high pulse rate is more common than elevation of temperature.

The changes in the finger tips and finger nails are frequently cited in connection with tuberculosis. Our histories have not been very complete in this respect for in 120 cases the question was not answered at all. Out of the remaining 230 cases, 32 or 13.8% were recorded

as having curved nails, 13 or 5.65% as having clubbed fingers and in 9 or 3.9% the nails were put down as cyanotic.

The sputum examinations were positive either before admission or during the stay at the sanatorium, in 203 or 59.7% of the cases in which the results of the sputum examinations were noted. In 137 or 42.9% of these cases no bacilli were found either before or after admission. It is to be remarked that the negative sputum examinations are surprisingly large, and would undoubtedly show up much less if the same methods of repeated examinations had been carried out from the beginning as are practised now. It has been frequently noted that bacilli are found sometimes only after a number of specimens have been examined and a careful search made of each slide.

A detailed study of the principal signs in connection with pulmonary tuberculosis would require more time and space than the scope of this work will permit. Our tabulations have indicated the side of the chest first affected when this could be determined with any certainty, and the amount of lung tissue involved. The side of the primary lesion is difficult or almost impossible to determine in cases with bilateral lesions unless the case has been examined previously from time to time and there are accurate records of former examinations. In very few of our cases with both lungs affected were such data obtainable, so that we have been limited in this determination to cases with one sided lesions only. Thus we find that out of 190 cases considered, 150 or 78.8% were right handed and in 40 or 21.2% the primary focus was on the left side. These figures correspond closely to those of the Phipps Institution, and other large institutions. It has been contended by some observers that many lesions at the right apex diagnosed clinically as tuberculous were in reality due either to physiological variation—nasal obstruction or non-tuberculous catarrhal conditions. In order to sift this matter a little more carefully, the right and left hand lesions were again divided into those with positive and negative sputum examinations. Thus we find that of the 150 right handed lesions, 58 or only 38.6% showed bacilli, while of the 40 left handed lesions 25 or 62.5% showed bacilli in the sputum. It may be said on the other hand, however, that the lesions are looked for more frequently at the right apex and that with an existing physiological variation any slight pathological change in signs would be more accentuated, while the same amount of trouble on the left side would have the effect of simply making the signs alike on both sides. As a matter of comparison the reports of the Adirondack Cottage Sanatorium for the last five years shows that out of a total of 906 patients, the lesion was limited to the right side in 217 or 54.1% and to the left side in 182 or 45.9%. Of the right side cases 132 or 60.8% showed bacilli in the sputum while 97 or 53.3% of the left sided cases showed bacilli in the sputum.

In regard to the amount of lung tissue affected we found that in 136 or 38.8% an area not more than 1 lobe in extent was involved; in 42 or 12% an area of not more than two lobes in extent, while in 136 or 38.8% both lungs were involved, no note being made as to area involved.

It has been impossible to classify more minutely as to the degree or intensity of the lesion as infiltration merges insensibly into beginning fibrosis, and intense consolidation with beginning central softening merges gradually into a condition of consolidation with actual excavation. In 20 cases however, there were distinct typical signs of cavity.

The only interesting complications bearing on the pulmonary condition was one of pyopneumothorax, which developed gangrene of the lungs. The signs at first were those of a pneumo-thorax, with typical metallic emphoric respiration, typical coin test and peculiar metallic ringing pectoriloquy. With the accumulation of fluid characteristic succussion splash was obtained distinctly audible to any one in the room. After thoracostomy, the patient lingered a long time, but finally developed gangrene of the lungs.

The remaining complications are tabulated for reference.

In studying the results of treatment in our patients it would have been interesting to follow the conditions on discharge according to occupation, age, sex, family history, duration of disease and extent of lesion. This would take us beyond the scope of our paper and must be deferred for future studies. One great difficulty in making such comparisons would be the different lengths of time that patients have staid at the sanatorium.

We have tabulated the condition on discharge for 318 patients according to the classification on admission. Some of these patients staid

only a few weeks, some over a year. Many early and favorable cases who were discharged as improved would have been discharged apparently cured and arrested if they had staid long enough, while some of those that staid the longest were advanced cases, who were allowed to remain as long as there was any hope of a turn for the better. The sanatorium has not been guided by a desire to create favorable statistics. In the interests of humanity it has received cases who did not come strictly within the limits of a sanatorium for early cases and this fact must be carefully considered in weighing the results of treatment. The graphic charts show that 81% of the incipient cases, 42% of the moderately advanced and 31.6% of the far advanced cases were either apparently cured or arrested.

However, the real results of treatment were not shown so much by the condition at discharge as by the subsequent history of the patients. The graphic chart based upon the table of "After Results of Treatment" taken from our Third Annual Report shows that condition at the anniversary of discharge of all patients who had been discharged at least one year. According to this we find that 35 patients who had been discharged for two years and 27 patients who had been discharged for one year, were well and able to earn a living. In other words, the equivalent of one year's wage capacity for 97 individuals had been restored to the community. Estimating the earning power of each individual at an average of $525.00 per year, the work of the sanatorium represents a total of $50,925 restored to the state. With each year the total wage return of these cured patients will increase. Assuming an average of only 18½ years of expectancy for each of the 35 patients discharged during the first year, the work of the sanatorium for that one year alone represents a total of $319,920 that will be returned to the state in wages. Or at the rate of 5% a capitalized investment of $218,750. If these patients had not been cured the community would not only lose this amount of their wage capacity but there would be the actual cost of invalidism for an average of two and one-half years for each patient.

Estimating the average total gross cost of treatment for an incipient case at about $325.00, at the above rate and average period of expectancy the patient's returns on his investment would be a total of $9,712.50.

According to the mortality statistics there were 1,291 deaths from tuberculosis during the three years ending December 31, 1910, or an average of 430 per year. On this basis there must be about 3,000 or 4,000 cases of active tuberculosis in Vermont, so that only about 9% of the estimated number of cases have received the benefit of sanatorium treatment and education.

The above statistical study cannot give a very vivid picture of the ravages still being caused by tuberculosis, but it is hoped that it may stimulate further interest in and study of the disease and eventually lead to more enthusiastic and active anti-tuberculosis work in this state, the burden of which must always be borne largely by the medical profession.

Geographical Distribution of 350 Cases According to Counties with Population of Counties.

Vermont Sanatorium, Pittsford, Vt.

County	Population	Number of Patients admitted
Addison	21,912	43
Bennington	21,705	21
Caledonia	24,381	4
Chittenden	39,600	43
Essex	8,006	2
Franklin	30,198	15
Grand Isle	4,462	2
Lamoille	12,289	9
Orange	19,313	4
Orleans	22,024	15
Rutland	44,209	72
Washington	36,607	59
Windham	26,660	28
Windsor	32,225	30
	From outside the state	3
	Total	350

Table of Nativity 350 Patients.

Vermont	240	68.6%
U. S. outside Vermont	48	13.75%
Total United States	288	82.3%
Canada	21	6.0%
Ireland	10	2.8%
Italy	8	2.25%
Scotland	5	1.4%

Russia	4	1.1%
Sweden	3	.8%
Hungary	2	.7%
England	2	.7%
Austria	1	.25%
Finland	1	.25%
Not stated	5	1.4%

Classification According to Race of 350 Patients Admitted to Vermont Sanatorium, Pittsford, Vt.

Anglo-Saxon	240
Celtic	49
Latin	30
Anglo-Saxon and Celtic	14
Scandinavian	5
Semitic	5
Slavic	2
Hamitic	2
Not classified	3
Total	350

Table Showing Sex and Ages According to Decades, 350 Patients, Vermont Sanatorium, Pittsford, Vt.

Ages.	Men.
10-20	30
20-30	51
30-40	47
40-50	21
50-60	1
60-70	1
Total	151

Ages.	Women.
10-20	39
20-30	79
30-40	58
40-50	19
50-60	3
60-70	1
Total	199

350 Cases of Pulmonary Tuberculosis.

Sex and Civil Condition.

Men single	71
Men married	73
Men widowed or separated	7
Women single	105
Women married	88
Women widowed or separated	6

Occupations of 350 Patients Vermont Sanatorium for Tuberculosis, Pittsford, Vt.

151 men.

Granite cutters	24
Office workers	23
Farmers	18
Students	17
Commercial	13
Drivers	10
Factory operatives	4
Marble workers	4
Slate workers	2
Teachers	2
Lawyer	1
Dentist	1
No occupation	1
Miscellaneous trades	31

199 women.

Houseworkers	109
Office workers	27
Students	25
Teachers	15
No occupation	9
Needle women	8
Factory operatives	3
Trained nurses	2
Musician	1

Predisposing Causes Present in 350 Cases of Pulmonary Tuberculosis, Vermont Sanatorium, Pittsford, Vt.

Indoor occupation	285
Overwork	75
Hereditary Tendency	74
Previous illnesses	58
Dusty trades	40
Unfavorable surroundings	19
Other causes	16
No causes given	47

N. B.—In some cases two or more factors were present at the same time.

350 Cases of Pulmonary Tuberculosis.

Previous illnesses noted as probable predisposing causes.

Grippe	30
Pleurisy	14
Pneumonia	12
"Frequent Colds"	7
Measles	7
Pleurisy with effusion	3

Empyema	1
Tb. peritonitis	1
Typhoid fever	1
Lymphadenitis	1
Diphtheria	2
Uterine disease	2
Ischio rectal abscess	2
Rheumatism	2
Scarlet fever	2
Previous Pulmon. Tb.	2
Whooping cough	3
Otitis Media	2
Bronchitis	2
Malaria	1

Family History in 350 Cases of Pulmonary Tuberculosis, Vermont Sanatorium, Pittsford, Vt.

Positive Tb. history	183
Negative Tb. history	167

Degree of relationship and number of cases in which relatives were tuberculous:

Brothers and sisters	64
Mother	29
Father	23
Both parents	9
Paternal grandparents	16
Maternal grandparents	11
Paternal uncles and aunts	25
Maternal uncles and aunts	35
Husband or wife	7
Cousins	5

Sources of Infection in 350 Cases of Pulmonary Tuberculosis, Vermont Sanatorium, Pittsford, Vt.

Home (Member of Patient's Family)	117
Fellow workers and friends	41
House infection	14
Cattle	2
Not specified	7

Table Showing Deviation of Weight from Standard (N. Y. L. I. C. Curves) 350 Cases of Pulmonary Tuberculosis.

0-10 Lbs. below	77
10-20 " "	109
20-30 " "	77
30-40 " "	35
40-50 " "	6
50-60 " "	1
Total below standard	305
Normal weight	4
0-10 Lbs. above	14
10-20 " "	5
20-30 " "	4
30-40 " "	2
40-50 " "	0
50-60 " "	0
Total above standard	25
Records incomplete	16

Measurements of Height.

Men more than 5′ 8″	65
Men less than 5′ 8″	82
Men not stated	4
Women more than 5′ 4″	90
Women less than 5′ 4″	92
Women not stated	17

Complexion in 350 Cases.

Complexion light	104
Complexion dark	202
Complexion florid	3
Complexion not stated	41

First Symptoms in 350 Cases of Pulmonary Tuberculosis.

Cough	119
Weakness	69
Pleurisy	43
Hemoptysis	39
Catarrhal	14
Fever	20
Intestinal	4
Dyspnea	4
Loss of weight	3
Night sweats	2
Palpitation	1
Not stated	28

Duration of Illness in 350 Cases.

Less than 3 months	82
3 to 6 months	108
6 to 12 months	85
1 to 2 years	48
More than two years	19
Not determined	8

275 cases less than 12 months.

Occurrence of Certain Important Symptoms in 350 Cases of Pulmonary Tuberculosis.

Sputum examinations were positive in 203 or 58%.

Sputum examinations were negative in 137 or 36.7%.

Sputum examinations were not considered in 10 or 5.8%.

Hemoptysis was noted in 139 or 39.7%.

General appearance was unfavorable in 197 or 56.2%.

Night sweats occurred in 87 or 25.8%.

Thoracic pain was noted in 171 or 48.8%.

Temperature (av. d. max. f. 1 wk.) was over 100° in 43 or 15.1%.

Pulse (av. d. range f. 1 wk.) was over 100 in 129 or 49.4%.

Temperature records incomplete in 24.

Pulse records incomplete in 82.

Out of 230 cases:

Fingers were clubbed in 13 or 5.6%.

Fingernails were curved in 32 or 13.8%.

Fingernails were cyanotic in 9 or 3.9%.

350 Cases of Pulmonary Tuberculosis.

Extent of Lesions in Lungs.

Lesion.	No. of Cases.
1 lobe	138
3 lobes	42
Both lungs	138
Cavity	20
Pleurisy alone	5
Not stated	7

Side of Onset of Lesion.

Right side	149
Left side	40
Intermediate	161

Side of Onset of Lesion and Result of Sputum Examinations.

Right apical lesion with positive sputum examination 58.

Right apical lesion with negative sputum examination 91.

Left apical lesion with positive sputum examination 25.

Left apical lesion with negative sputum examination 15.

350 Cases of Pulmonary Tuberculosis Complications (Tuberculous).

Lymphadenitis	9
Laryngitis	8
Enteritis	6
Ischio rectal abscess or fistula	5
Gen. Mil. Tb.	1
Peritonitis	2
Meningitis	1
Pleur. effusion	5
Pyopneumothorax	1
Epididymitis	1

Complications (Non-Tuberculous).

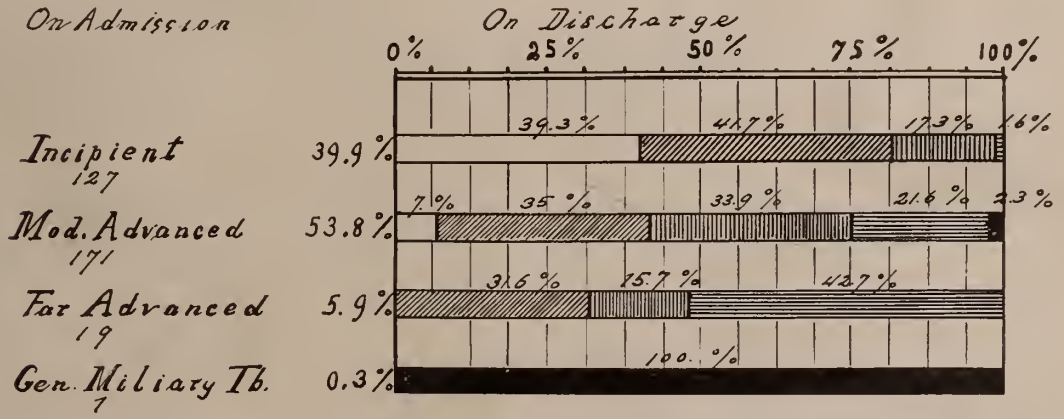
Neurasthenia	2
Sciatica	2
Appendicitis	6
Gastritis	2
Ovaritis	2
Uterine fibroid	1
Chronic rheumatism	1
Pregnancy	1
Keratitis	1
Pericarditis	1
Cystitis	1
Spinal curvature	23

Menstrual Disturbances (199 Cases).

Amenorrhea (3 due to operations)	16
Menorrhagia	4
Irregularities	22
Metrorrhagia	2

RESULTS OF TREATMENT OF 318 PATIENTS DISCHARGED FROM VERMONT SANATORIUM, PITTSFORD, VT.

Condition on Admission.		Condition on Discharge.				
		Ap. Cured	Arrested	Improved	Failed	Died
Incipient	127 = 39.9%	50 = 39.3%	53 = 41.7%	22 = 17.3%	2 = 1.6%	
Mod. Adv.	171 = 53.8%	12 = 7. %	60 = 55.0%	58 = 33.9%	37 = 21.6%	4 = 2.3%
Far Adv.	19 = 5.9%		6 = 31.6%	3 = 15.7%	10 = 52.6%	
Gen. Mil. Tb.	1 = 0.3%					1 = 100%
Total	318 = 100%	62 = 19.4%	119 = 37.4%	83 = 26.1%	49 = 15.4%	5 = 1.6%



Legend: ☐=ap. cured, ▨=arrested, ▥=improved, ▤=failed, ■=died,

Results Of Treatment 318 Cases
Vermont Sanatorium Pittsford, Vt.

W.C.K

RENAL TUBERCULOSIS.

BY

WILLIAM WARREN TOWNSEND, M. D.,

Rutland, Vt.

That renal tuberculosis is more common in Vermont than is appreciated by the profession and that the condition is overlooked in the efforts of the attendant to relieve a cystitis, which in reality is simply a symptom of renal tuberculosis, is my firm conviction, based upon a number of cases that have been referred to me and it is with a plea for earlier diagnosis that I ask your indulgence.

Renal tuberculosis is a disease of early adult life and is about evenly divided among males and females, according to the latest collaboration of cases by Braash of Rochester, and Albarren and his pupils of France.

In females renal tuberculosis is always a hematogenous infection and in the male it is, in the greater percentage of cases. Some authors believe it always to be a hematogenous infection. Many, however, are convinced that an infection by contiguity is possible. A case in mind rather tends to confirm this belief:

An Italian, age 38, had his first symptom of tenderness and pain in the left epididymis seven years before. The condition failed at resolution and pus formed, which evacuated and drained spontaneously. Within a year the testicle of the same side showed eruptive symptoms and pus formation and it was removed by a colleague, who advised me that it was clinically tubercular, but that no microscopical section was made. Two years ago, or five years after orchidectomy of the right side, he was referred to me for what proved to be an epididymeal abscess. No urinary symptoms were complained of and the routine urinary analysis failed to show any evidence of kidney or bladder involvement whatsoever. I did an epididymectomy and the epididymis proved to be tubercular and in further confirmation of its tubercular nature, I will say that during the operation I pricked the middle finger of my left hand and thereon developed a local tubercle, which was excised and found to be bacteriologically tubercular. All went well with the patient until two months ago or twenty-two months following the epididymectomy of the left side, when the patient returned complaining of urinary urgency and pain radiating from the left inguinal to the left lumbar region. The urine showed pus, but no tubercular bacilli. Examination of the prostate by rectal palpation disclosed an infiltration of the gland and catheterization of the ureters gave the pus laden urine from the left side and normal urine from the right. The urine from the left kidney showed, microscopically, a pyelo-nephritis, and inoculation of a guinea pig with the urinary sediment, proved it to be tubercular, as the animal died and showed a tubercular mesentery and glands. A nephrectomy was refused, so I cannot report the condition of the kidney. This case was, in all probability, one of direct infection from the genital canal to prostate, bladder, ureters and kidney, however, the possibility of lymphatic transmission or independent infection from the blood stream, it deriving its infection from the epididymeal focus, must not be lost sight of.

Unfortunately, as stated, hematogenous infection is most common and remains unrecognized until the bladder has become inflamed by the elimination in the urine of tubercular and mixed products and there exists a tuberculous cystitis rather than a tubercular bladder, as is oftentimes diagnosed when tubercular bacilli are found in the urine.

The early diagnosis of renal tuberculosis, like the early diagnosis of tuberculosis in other parts of the body, spells success in the cure of the disease; and while renal tuberculosis is oftentimes a secondary focus of tuberculosis, it serves to direct one to the primary focus which was unrecognized.

For example, a man came to me for urinary frequency, which proved to be a tubercular left kidney, confirmed by animal inoculation. Upon questioning the patient regarding cough and other clinical tubercular symptoms, he admitted having a cough, which he considered, if I may be allowed to quote verbatim, "a distemper that hed been goin' 'round" and had taken for it ordinary domestic remedies and had not mentioned it to his physician as the vesical trouble "was so painful-like that it was *it* that needed the doctorin'." The sputum was examined for bacilli and they were found and I am told that the right lung showed areas of active and quiescent tuberculosis.

As stated, many cases of renal tuberculosis are treated for cystitis and receive the orthodox bladder lavage and most generally with great difficulty. By this I mean the patient complains of

the operation being painful, and oftentimes the bladder contracts so as to force the catheter out and otherwise manifests itself as being intolerant to treatment.

This is an especially suggestive symptom and should at once arouse one's curiosity to go further towards making a bacteriological examination.

The history of tubercular antecedents bears about the same relationship to renal tuberculosis that it does to other forms, namely, predispositionship and personal contamination.

Pain in the lumbar region is an unreliable symptom and when present is generally due to the increased congestion and functionation of the well kidney performing the work of its crippled, tubercular mate of the opposite side.

Fever cannot be depended upon in making an early diagnosis and when present indicates an active tubercular lesion as in other forms.

Tumefaction in the lumbar and upper lateral quadrants, as is oftentimes looked for, is seldom diagnostic without other corroborative symptoms and when an enlarged kidney is palpated it is frequently the sound organ, as described above.

Nocturnal and diurnal urinary frequency is very suggestive and a symptom that should demand your most careful investigation, for it is an early symptom of renal tuberculosis and one that calls for a most careful urinary examination and from it a diagnosis of renal tuberculosis is made possible.

It is not within the province of this paper to discuss urinary analysis, but a point or two regarding the suggestive and the positive character of urine from a tubercular kidney I beg leave to offer. The urine has generally the ocular appearance of weak lemonade and always contains pus, first microscopical and afterwards macroscopical, sometimes blood but not constant and not always albumen. Casts and parenchymal debris only when the kidney substance is markedly diseased and necrotic. The reaction is most generally highly acid, in this way differing from the pus laden urine of a cystitis due to urinary obstruction.

Upon the bacteriological examination rests the diagnosis and the finding of acid fast bacilli, coupled with the clinical symptoms, clinches the diagnosis. However, it has been proven that tubercle bacilli may be found in the urine of individuals whose kidneys are not tubercular, but are simply acting as filters and abstracting the organism from the blood stream where they have been picked up from some focus, for example, the lungs or bones.

Perhaps in the discussion, the bacteriologists present will tell us the proportion of times that the organism is found by smear, when proven to be present by subsequent animal inoculation, and I will not inflict upon you my own records, but will say that I, personally, never venture an absolute diagnosis without animal inoculation, unless the smear is frankly positive and the clinical symptoms overwhelming.

Renal colic caused by the passage of tubercular debris down the ureter, thus obstructing the renal output of a tubercular ureteritis, will cause symptoms similar to those due to the passage of a renal calculus.

A young man referred to me had three attacks of renal colic with hematuria and as the attendant was never able to find the stones and the bladder began to be irritable, it was considered probable that they were lying in the bladder and he brought him to me for a cystoscopy. Ureteral catheterization was done and a diagnosis of right renal tuberculosis was established. The well kidney was competent and a nephrectomy was made. The kidney was found to be diseased and the young man made an uninterrupted recovery and is at the present time in apparently perfect health.

Macroscopical blood in the urine always brings the patient to his physician at once and as blood is frequently one of the first symptoms of renal tuberculosis, it is wise to determine the source of the bleeding without delay.

Skin and conjunctival tests of tuberculosis fail in accuracy in renal as well as in other forms of the disease. In tubercular ulceration of the bladder a hyperemic areolar around the ulceration, following the injection of tuberculin, has been observed, and is used to differentiate vesical ulceration. The injection of tuberculin will, by producing congestion of the diseased kidney sometimes cause the same to become painful and further confirm a diagnosis.

A discharge from the meatus urinaris while not a symptom of renal tuberculosis may act as a lead to diagnosis, and as I have among my records several cases of renal tuberculosis that were being treated for gonorrhea, I feel it my duty to mention this possible error in diagnosis. Routine bacteriological examination of

all discharges from the meatus will prevent this error; not that the tubercular bacilli will be demonstrated, but the organism occasioning the urethritis will or will not be found and may stimulate a further study of the case. When the laboratory has furnished you with a report of finding tubercular bacilli in the specimen, which we will assume was a catheterized specimen of the mixed urine drawn under aseptic precautions, it then becomes necessary to determine which kidney is the diseased one and whether or not the well kidney is functionately competent. This is accomplished by ureteral catheterization. Segregation is unreliable as ordinarily the bladder is secondarily involved and is so contracted that it makes segregation impossible.

Removal of the tubercular kidney is the only procedure that offers anything in the way of effecting a cure. Reconstructive treatment, per se, in renal tuberculosis is not sufficient; it takes nature too long to nephrectomize by destruction and we must assist by removing the kidney after determining the diseased one and the competency of its mate.

The necessity of this procedure was well shown in a young man, a granite cutter, weighing 230 pounds and in apparently good health, who was sent to my clinic for relief from pain in the right side and a cystitis that had received the usual local treatment with a varicty of antiseptic solutions and internally, general urinary antiseptics. Catheterization of the ureters showed that the patient had a bilateral renal tuberculosis and the animal inoculated died within the time limit with a general miliary tuberculosis.

I am keeping track of this patient and am advised that he is losing weight rapidly and is developing a tubercular peritonitis. Had we assumed in this case that the pain in the right loin indicated the kidney that was diseased and operated we would have precipitated an early demise, as either kidney alone would have been incompetent.

Another case taken from my private records is that of a young lady in whose mixed urine tubercular bacilli were demonstrated and who had a palpable tumor in the left lumbar and left lateral quadrant and was about to be operated for the supposedly tubercular kidney, when I was asked to cystoscope and catheterize the ureters and found that the diseased kidney was on the right side and that the left was hypertrophied in order to carry on the work of its mate, thus it will be obvious that after the tubercular bacilli are demonstrated in the urine, it is our duty to go further in the investigation of the symptoms and determine whether we have one or both kidneys diseased or if the individual has but one kidney and that diseased.

Since the perfection in the technique of ureteral catheterization and the more frequent performance of autopsies, it has been found that solitary kidney is more common than it was supposed.

In conclusion, permit me to once more appeal for a more careful study of patients coming to you complaining of painful and frequent micturition, and I am sure you, like myself, will be surprised at the number of cases of renal tuberculosis that you will encounter in your work.

DISCUSSION.

Dr. S. S. Eddy, of Middlebury.—Dr. Townsend has certainly given us an exceptionally good paper and I am sorry that Dr. Stone couldn't open the discussion. Dr. Townsend has shown us the importance of an early diagnosis in these renal cases; that undoubtedly these cases are a good deal more frequent than we have realized. He has shown us, too, the points and symptoms of diagnosis for which we should be on our guard to recognize early in these cases of renal tuberculosis. We must realize that if we are going to do our patients any service in this condition we must do it in the earlier stages of the disease. Illustrative of the fact that Dr. Townsend brought out in the latter part of his paper that the well kidney is often hypertrophied, I would like to report a case that came under my observation recently. A married woman who had symptoms similar to the latter had renal tuberculosis. She was admitted to the Homeopathic Hospital in Boston. Attempt was made at first to operate on the left kidney, and in getting down on to it, it was discovered that the kidney was simply hypertrophied. The other kidney was removed. It is interesting, too, the fact that later she developed a very distinct hernia through a scar on the left side of the normal kidney, but she has been perfectly well since. I don't know that I have anything further except to ask Dr. Townsend what value tuberculin and X-rays may have in the early diagnosis of these cases?

Dr. Woodruff, of Barre.—Perhaps it might be worth while to give a short history of that case, the specimen of which is on the black-board. The woman came under my care about three weeks ago. In the previous history there was nothing. Last January she had slight hematuria, but it passed off. In May she developed the typical systoms of cystitis, and in July began to pass blood in the urine and has passed it off and on ever since. She also has lost weight, and when I got her she was having evening temperature, not very often quite as high as 100, but once she went to 101. The hematuria called my attention to the fact

that I ought to find where the lesion was, and I made examination of the urine at six different times and couldn't find any tubercle bacilli. I cystoscoped the woman and found ulceration on the left side. I wasn't able to get into the ureter. She continued to go down hill, and Dr. Townsend being out of the city we didn't manage to get an examination of the ureter, so that the only thing to do was to cut down and find out if the right kidney was good, and it was, and the patient seems to be doing all right at the present time.

Dr. W. W. Townsend, of Rutland.—A reaction from the injection of tuberculin will lead one to be suspicious of his subject. An X-ray in early renal tuberculosis is not of much value.

Dr. Woodruff's excuse for his not being able to get any urine is well taken, as I think anybody who has done much of any cystoscoping will acknowledge the same inability. In a tubercular kidney, if I have not been able to do anything else in this message I have brought to you, I want to impress upon you to pay attention, bacteriologically, to your cases that don't respond to ordinary tests, especially those individuals who have to rise at night to urinate.

Tobacco Psychosis in a Boy.—Pel (*Berl. klin. Woch.*) does not believe that chewing and smoking of tobacco are by any means harmless, but thinks that he can trace many troubles to the use of tobacco and its contained poisons. Nicotin is by no means the only poison found in tobacco, the others being nicotein, nicotellin, pyrrhol, pyridin bases, sulphuric acid, cyanic acid, cyanammonium, carbolic acid, formaldehyd, carbon dioxide, and ammonia. Fortunately for the smoker most of these are lost by the age and dryness of the tobacco when it is used and by the fact that many of them are burned and destroyed in the smoking process. Still nicotin is one of the most poisonous alkaloids, 50 milligrams being a fatal dose for a man. The effect of this habit on different individuals varies very much, some being much more easily poisoned than others. The diagnosis of tobacco poisoning is not easy on account of the inconstancy and variety of the symptoms caused. Each individual is a law unto himself. One person has headache; a second, anemia; a third, nervousness and sleeplessness; a fourth, heart symptoms such as palpitation, arythmia, tachycardia or angina; a fifth, disturbances of vision; a sixth, arterial sclerosis; a seventh, gastric symptoms; an eighth throat and mouth symptoms. Psychoses also may develop. The author cites the case of a boy of 13 who worked in tobacco and also smoked. Previously strong and healthy, in a few weeks he had no appetite or energy and was pale, listless, inattentive, and walked with difficulty. He did not recognize his surroundings and was subject to hallucinations and hysterical attacks.

Psychology and Medical Education.

Program of the joint meeting of the American Psychological Association and the Southern Society for Philosophy and Psychology, to be held at the government Hospital for the Insane, Washington, D. C., Thursday forenoon, December 28th, at ten o'clock.

1. The Present Status of Psychology in Medical Education and Practice, Shepherd Ivory Franz.
2. Psychology and Diagnosis. (The right kind of psychology for an understanding of psychiatry), Adolph Meyer.
3. Cooperative Research in Psycho- and Neuropathology, E. E. Southard.
4. Suggested Content of a Course in Psychology for Medical Students, John B. Watson.

The discussion of these papers and of the proposals advanced will be opened by Morton Prince with a brief paper on "Psychology and Therapeutics," and will then be carried forward informally by representatives of medical schools and university departments of psychology. Those participating are requested to limit the length of their remarks to five minutes.

An invitation is extended to all who are concerned with medical education to be present at this symposium.

The members of the two societies and their guests are invited by Professor Franz to a luncheon following this meeting. Those intending to be present will confer a kindness by sending early acceptance of this invitation to the Secretary of the American Psychological Association, W. Van Dyke Bingham, Dartmouth College, Hanover, N. H.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D.,
B. H. STONE, M. D., } .....*Editors.*

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Published at Burlington, Vt., on the 15th of each month by the Burlington Medical Publishing Company, incorporated.

BURLINGTON, VT., DECEMBER 15, 1911.

EDITORIAL.

Vermont is strongly attached to its town system. Although this admittedly results in a legislative assembly unwieldy, and through at least two-thirds of its sessions inefficient, yet so highly prized is the office of town representative offering as it does a little political plum which is within the longing view at least of almost anyone, that it will be many a day before we may expect to see a change to the county system.

There are, however, certain town offices which it seems within the range of possibility to change to the county offices. A step in this direction has already been taken in allowing towns to combine in procuring the services of an efficient superintendent of schools. It is obviously beyond the financial ability of most country towns to pay a salary which is in any way commensurate with the importance of this office. We look forward with hopeful anticipation to an action similar to that in force in Massachusetts which will require each town or town group to have a school superintendent paid a salary whose minimum limit is high enough to make the office one sought by competent men.

It was early seen that criminal prosecutions must be put in the hands of a county official to prevent chaos and to provide a man efficient to carry on this important work. No one questions the wisdom of having the state's attorney a properly salaried county officer.

If the public prosecutor should be a county official, and if the schools need a superintendent of qualifications higher than it is within the power of the town to provide. how much more should the official who has the responsibility of protecting us from the ravages of preventable disease be a man of training, ability, and worth. The problems of preventive medicine are multiplying so rapidly with the increasing knowledge of the cause of disease, that a very special training is needed to cope with these questions. It is no longer true that any graduate of medicine is qualified to handle all these problems any more than he is able to start immediately into the practice of any of the other intricate medical specialties.

To be efficient as a practical sanitarian, one must take up a special line of training and must look forward to making the subject a life work. The general practitioner can not under the present conditions afford the time or money necessary to qualify him in this special branch. While we would not say a word in depreciation of the morale of our present state health service, while we feel that most of our towns are fortunate in having the service of conscientious courageous men, we do know that these men are underpaid. They must fail to give to questions of disease prevention, the proper amount of attention or must do so at an actual monetary loss to themselves. Furthermore we do know that there are many towns with health officers absolutely inefficient and who can tell when

disease may gain such a foot-hold in these towns, as to endanger the whole state?

Furthermore, no local man dependent upon other business in the town, professional or otherwise, for the larger part of his income, can administer the duties of health officer with the same fearless independence as could be done by a man more removed from local influences, and independent of local popularity for his living.

An attempt has been made to remove the health officer from local politics by giving the power of appointment and removal to the State Board of Health. This accomplishes the purpose in part but only in part, for while the office can no longer be a political shuttle-cock, it may become so inconsistent with other business, that a man is forced to resign. The deficiencies of knowledge on the part of the health officer are partly met by the health officers' school and that this has done much in increasing the efficacy of the service, no one can doubt. But while the office is such a one that no one can afford to devote his life's work to it, or even take any great amount of preparation for it, we can not expect the highest degree of efficiency. We believe that the office of health officer should be a county one with appointing power resting with the State Board of Health and with a salary commensurate to its importance, paid from the State Treasury. Such a system has been in effect for years in England. There the incumbent must be specially trained and must hold a degree to that effect, is required to give his whole time to the service and is paid a liberal salary by the central government. In anticipation of such a development in America, our progressive universities are beginning the establishment of special courses in preventive medicine. Much has been done in Vermont in the prevention of communicable and preventable disease, but the public is going to demand even more. It has a right to expect that typhoid fever will grow less and less; that children will be sent to school without being in peril of contracting diphtheria, scarlet fever, measles or whooping cough and that smallpox will be kept beyond our borders, and moreover the public is willing to pay for this safety. We not only feel sure that this county system will work for efficiency, but we believe that it will be economical as well. Certainly in the long run, if the disease rate can be lowered, ever so little, economy will result.

The value of protective inoculation against typhoid fever has been demonstrated beyond question. As long ago as the Spanish war, two divisions of the Seventh Army Corp encamped in Florida, were submitted to experimental inoculations, the one numbered ten thousand seven hundred and fifty-nine men, the other twelve thousand eight hundred and one. The camp conditions as to sanitation were exactly alike in these two divisions, and the water for both was obtained from artesian wells. None of the officers or men in the smaller division had been inoculated with typhoid vaccine. It had two thousand six hundred and ninety-three cases and two hundred and forty-eight deaths from this disease. In the larger division, a majority were inoculated, and it had but a single case of typhoid fever and no deaths. The Germans in Southwestern Africa and the English in India have had similar results with typhoid vaccination of troops and finally in a recent application of typhoid vaccination to sixteen thousand of our own troops in Texas, the results have been so remarkable (only one case of typhoid developing) that the whole army is to be immunized in this way. No one can say that the measure has been undertaken hastily. The army medical authorities are much elated

over the results in Texas and they trust that this experience will bring into common use a procedure of as great sanitary value as was the discovery of the method of preventing yellow fever. The reaction from inoculation is very slight; the mortality practically nothing. It seems surprising that the use of a protective measure so simple, efficient and withal so well known, has been so long delayed.

NEWS ITEMS.

Laconia, N. H., has been suffering from an outbreak of smallpox which is now quite completely under control. To date, November 9th, there have been forty cases and there are now ten cases in the isolation hospital.

Mr. Edward F. McSweeney, chairman of the trustees of the Boston Consumptives' Hospital, in an address read at the annual meeting of the Boston Association for the relief and control of tuberculosis, said, that the number of new infections every year is not less now than six years ago. Until the community understands that it is cheaper to save a baby's life than to bury it, and actually to prevent sickness and crime than to treat it after it becomes chronic, he says, progress will be slow. After more than two years of agitation, the year 1911 would see a sacrifice of 6,000 lives in Massachusetts, to a single preventable disease. He said further that there is a money loss of over $500,000,000 in Massachusetts each year from diseases and deaths which might be prevented.

Dr. David C. Coleman, city physician of Beverly, Mass., died of appendicitis following an operation at the Beverly Hospital, Nov. 6th. He was 33 years of age.

Dr. H. H. Lawrence of Springfield, Vt., has purchased the house of Dr. G. S. Foster of Putney and has taken up the practice of medicine there.

Dr. G. T. Swarts, secretary of the Rhode Island State Board of Health has just discovered an epidemic of smallpox in the towns of Coventry and Warwick of that state, about one hundred cases have been found up to November 12th.

The Interstate Commerce Commission returns show that the average accident resulting in death has cost the roads $1,200 for each death, while in cases of permanent disablement, settlements have averaged about $4,200.

Dr. E. S. Cowles, formerly of Boston and more recently of Brattleboro, Vermont, has gone to Portsmouth, N. H., to practice.

The Census Bureau has prepared a statement showing the death rate per 100,000 population from typhoid fever in 1910, in certain large cities. The largest number of deaths, 556, occurred in New York City, while in Cincinnati, the number was but 32, the lowest rate of all the 17 cities concerned.

The report just issued by the Interstate Commerce Commission shows that there were 10,369 people killed and 150,159 injured. Out of those killed, but 356 were passengers while 5,287 were killed while trespassing. The report shows a total of 1,648,033 employees in the service of all the railroads of the United States.

The Massachusetts Supreme Court has just decided against a farmer who had milk in his possession that was below the standard established by statute. The farmer offered evidence that he did not have his milk for sale and that the milk might be considered as commercially pure or even normal although lacking the full statutory requirement. All this evidence the court declares to be not admissible.

The Court of Appeals at Albany, N. Y., has just reversed the judgment of the lower courts which gave a man a verdict of $30,000 against St. John's Hospital in Brooklyn, N. Y., for injuries sustained in a collision with the hospital's ambulance while he was riding his bicycle. The Court of Appeals held that the driver of the ambulance was a servant of the livery stable where the ambulance was kept and that while the ambulance surgeon was not at fault or negligent no liability for the driver's negligence could be placed on the hospital. The court said also: "No charitable corporation can be exempt from liability for a tort because it holds its property for charitable purposes."

Mrs. Edward H. Harriman is defending a suit brought by Dr. Joseph Frankel for $4,500 for medical services rendered to Mr. Harriman

from March to September, 1909. Mrs. Harriman denies that the services were worth $4,500 while she acknowledges the attendance.

Dr. Charles F. Wainright, New York City, is suing the estate of the late Thomas F. Walsh for $42,000, the balance of his bill for medical services rendered to the millionaire mining operator. He has received $8,000 of the $50,000 claimed for continuous services from January 12, 1910, to April 8, 1910. The suit is being conducted in Washington, D. C.

Edward A. McSweeney, chairman of the board of trustees of the Boston Consumptives' Hospital, declared recent at a luncheon of the Pilgrim Publicity Association at the Broomfield Inn that the sanatorium at Rutland, Mass., had proved to be an utter failure. Declaring that the lack of co-ordination among agencies was responsible for ineffective work among the poor and sick, the speaker cited many figures to show what might be done to improve the condition of the city's poorer classes. He said the greatest trouble to-day is the return of patients from the various places of treatment to the very same unsanitary conditions which caused their illness. Mr. McSweeney also assailed the playground system. Playgrounds, he said, were the stamping grounds of bullies and weak children and tired mothers had little chance to use them. He declared the present laws were forceful enough but that there was great need of their rigid enforcement. Dr. Arthur Cabot, chairman of the board of trustees of the state institution for consumptives which has control of the Rutland Sanatorium said the long list of positive cures resulting from treatment at the Rutland Sanatorium refutes Mr. McSweeney's statement as to its failure. As to the return of patients to unhealthy and dangerous surroundings, we have a very practical system arranged through the co-operation of the state, the city or town in which the patient resides, and the Anti-Tuberculosis Association to meet this condition. When a patient is discharged from the sanatorium we send a circular to the board of health of his town or city and to the association asking them to watch the case and advise him as to his surroundings. We also encourage reports from the patients themselves.

Dr. M. F. Blodgett, Corinth, Vt., met with a shocking and fatal accident the latter part of October. He was in the habit of taking a shot gun with him in his drives and often secured game from the road side. At this time he was in his motor car. The gun was accidentally discharged and he was shot at the junction of the neck and lower jaw in the jugular region and instantly killed.

Dr. Edwin M. Pond of Rutland, Vt., has devised a new form of medication which has been called Pond's Pink Plaster. A medicated mass is spread on gauze and cotton and covered on both sides with impervious paper; the plaster being slightly warmed it remains soft as long as it is kept in contact with the body. They are for use in inflamed surfaces and in rheumatic and like conditions.

Dr. W. S. Wasson of the State Hospital at Waterbury is studying with Dr. E. E. Southard at Boston.

Dr. John M. T. Finney of Baltimore, Md., has been selected by the subcommittee of the board of trustees of Princeton University as a nominee for the presidency of that college. Dr. Finney is a member of the class of 1884 and is 48 years old. The physicians and surgeons of Johns Hopkins Hospital with which he is intimately connected are urging him not to accept the appointment to the presidency.

Dr. Arthur D. Bush of Wakefield, Mass., has been secured by the University of Vermont as instructor in physiology. Dr. Bush is a graduate from Tufts College and the College of Physicians and Surgeons at Atlanta, Ga., and later took a post-graduate course in gynecology at Harvard. Several years he was dean of the medical department of New Orleans University and superintendent of the Sarah Goodrich Hospital.

OBITUARY.

Dr. James A. Leete of Enfield, N. H., died Saturday, Nov. 11th of typhoid fever, at the Mary Hitchcock Hospital, Hanover, N. H. He had practiced in Enfield for 20 years.

Dr. Charles R. Gould, who had practiced in Tilton, N. H., for nearly 50 years, died in that place November 11th of apoplexy. He was 69 years old.

Dr. P. H. McMahon died suddenly at his home in Burlington, Dec. 14th.

Dr. Walter Wyman, surgeon general of the Public Health and Marine Hospital Service died at Providence Hospital, Washington, D. C., November 21st, aged 63 years. Dr. Wyman has been intimately connected with the government service since 1876.

Dr. LeRoy Munroe Bingham died suddenly at his home in Burlington, November 27th, of angina pectoris. He had been in poor health for some time, but his death was entirely unexpected. Dr. Bingham was born April 10, 1845, in Fairfax, and was the son of Royal Tyler Bingham and Amy Proctor Bingham. His father was a prominent farmer of that town, and served in the Civil War. Dr. Bingham received his early education in the public schools of his native town. He enlisted May 7, 1861, in Company H, Second Vermont regiment, and was mustered in June 20 of that year. He was promoted to be corporal, and was wounded May 3, 1863, and May 5, 1864. He was mustered out June 29, 1864. His record throughout the Civil War was one of high credit. For a time he was instructor in Hampton Institute at Fairfax. In 1870 he was graduated from the University of Vermont College of Medicine, and he immediately began practice as a physician in Stowe. He married at Winooski February 22, 1871, Miss Alma Edwards of that place, who was the daughter of Jonathan and Rosanna Edwards. In 1874 he removed to this city, where he began the practice of his profession. His success was marked from the very first, and he rose to a place of high standing among the surgeons of this state in a few years. From about 1878, for a period of 20 years, he was one of the most active and the best known surgeons in Vermont, receiving calls from all parts of the commonwealth for operations and consultation. About 1874-1876 he was demonstrator of anatomy at the University of Vermont. When the Mary Fletcher hospital was opened he was attending surgeon, and continued in this position until within a few years. Since retiring from service in that capacity he has been consulting surgeon of the hospital. He established and conducted for several years the Amy Proctor sanatorium in this city. In 1900 Dr. Bingham retired from active practice and became attending physician to Dr. W. Seward Webb, whom he accompanied during extensive travels. Dr. Bingham's service in this capacity took him abroad for a year. At the time of his death he was chief consulting surgeon of the Rutland railroad. He was a member of the American Medical Association, the Vermont State Medical Society, and the Burlington and Chittenden County Clinical Society. He was a prominent member of the Methodist Church of this city, and, at the time of his death, president of its board of trustees.

John Bradley Crandall, M. D., University of Vermont, 1862, a member of the American Medical Association and formerly president and secretary of the Rock River Valley (Ill.) Medical Association; assistant surgeon 13th Vt. Vounteer Infantry during the Civil War, died at his home in Sterling, Ill., Oct. 21, aged 71 years.

BOOK REVIEWS.

HANDBOOK OF SUGGESTIVE THERAPEUTICS AND APPLIED HYPNOTISM PHYSIC SCIENCE.—A Manual of Practice, Psychotherapy, designed especially for general practitioners of medicine and surgery, by Henry S. Munro, M. D., Omaha, Neb. Third edition revised and enlarged. St. Louis: C. V. Mosby Company, 1911.

With Christian Science and Emmanuelism taking such a hold on the people and actually accomplishing so much, it is high time that the regular practitioners inquire into the subject and see what there may be of value to him in the teachings of the semi-quack schools. The book will bring much of value to the doctor. Suggestion has great effect and every successful doctor relies upon it to a considerable extent. Whether he realizes it or not, he should understand it.

OPHTHALMIC MYOLOGY—A SYSTEMIC TREATISE ON THE OCULAR MUSCLES.—By G. C. Savage, M. D., Prof. of Ophthalmology in the Medical Department of Vanderbilt University, etc. Eighty-four illustrative cuts. Second edition. Published by the Author, 137 Eighth Ave. North, Nashville, Tenn. Printed by McQuiddy Printing Co., Nashville, Tenn., 1911.

This work is for the specialist. The author from his great experience advances views which are at variance with some of these taught by Helmholtz. These views he defends with great vigor and skill. The author has treated the subject in an original but thoroughly scientific manner.

PRACTICAL CYSTOSCOPY AND THE DIAGNOSIS OF SURGICAL DISEASES OF THE KIDNEYS AND URINARY BLADDER.—By Paul M. Pilcher, M. D., Consulting Surgeon to the Eastern Long Island Hospital. Octavo of 398 pages, with 233 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

The contents of the book are considered under seven parts as follows: "The Diseased Bladder"; "The Diseased Prostate"; "Diseases of the Ureter"; "The Functional Activity of the Kidneys"; "Diseases of the Kidneys"; "Therapeutic Use of the Cystoscope." The work is profusely illustrated and is a valuable addition to the literature of this important subject.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE.—By James M. Anders, M. D., Ph. D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Tenth Revised Edition. Octavo of 1,328 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net; Half Morocco, $7.00 net.

This well known and popular work has been thoroughly revised. A detailed consideration of the practical aspects of medicine, etiology, diagnosis and treatment is emphasized. The author draws largely from his rich experiences but gives ample consideration to the methods of others which have proven their usefulness. Much new material in the realm of therapeutics has been added including salvarsan, Chautemesse's serum in typhoid fever. The edition will, we feel sure, add to the popularity of previous editions.

DIAGNOSTIC METHODS, Second Edition Revised.—A Treatise on Diagnostic Methods of Examination.—By Prof. Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with additions, by Nathaniel Bowditch Potter, M. D., Asst. Professor of Clinical Medicine, College of Physicians and Surgeons, New York. Octavo of 1,229 pages, containing 472 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $6.50 net; Half Morocco, $8.00 net.

This work of Prof. Sahli is really the last word on diagnostic methods—written with characteristic German thoroughness and garnished with numerous plates, it is really a wonderful monument of industry. Almost too comprehensive for an undergraduate, it is indispensable for the graduate student of medicine. The work is carefully translated and great credit is due to the translator, Dr. Potter.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (Mayo Clinic) FOR 1910.—Octavo of 633 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

The volume contains 54 pages on a variety of subjects written by members of the staff of the St. Mary's Hospital and Mayo's Clinic at Rochester, Minn. The papers treat of a great variety of subjects and are all based on the work done at Rochester.

MEDICAL CHEMISTRY AND TOXICOLOGY.—The new (3rd) Edition, Revised.—A Text-Book of Medical Chemistry and Toxicology.—By James W. Holland, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College, Philadelphia. Third Revised Edition. Octavo of 655 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $3.00 net.

This work after dealing in an introductory with the subject of physics as related to chemistry proceeds to a discussion of the chemical elements considering them in turn under the headings "Occurrence," "Preparation," "Properties," "Toxicology," "Detection," "Organic and Physiological Chemistry and Energy of Foods." The book is well arranged, clearly written and illuminated with good plates. The third edition thoroughly revises the book without enlarging it. The writer considers Holland an especially well written work on the subject of medical chemistry.

THE PRACTITIONER'S VISITING LIST FOR 1912.—An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid, to any address, $1.25. Thumb-letter index, 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

DORLAND'S AMERICAN ILLUSTRATED MEDICAL DICTIONARY.—A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Medicine, Nursing, Biology, and kindred branches; with new and elaborate tables. Sixth Revised Edition. Edited by W. A. Newman Dorland, M. D. Large octavo of 986 pages, with 323 illustrations, 119 in colors. Containing over 7,000 more terms than the previous edition. Philadelphia and London: W. B. Saunders Company,

1911. Flexible Leather, $4.50 net; thumb indexed, $5.00 net.

Dorland's Medical Dictionary has many attractive features. It furnishes a guide to capitalization, it gives the pronunciation of every word, it includes all new words, and special terms, etc. The type is clear, it is a most satisfactory medical dictionary.

Electricity, Its Medical and Surgical Applications, including Radiotherapy and Phototherapy.—By Charles S. Potts, M. D., Professor of Neurology in the Medico-Chirurgical College of Philadelphia, with a Section on Electrophysics by H. C. Richards, Ph. D., and a Section on X-rays by H. K. Pancoast, M. D., of the University of Pennsylvania. Octavo, 509 pages, with 356 illustrations and 6 plates. Cloth, $4.75 net. Lea & Febiger, Publishers, Philadelphia and New York, 1911.

This book is unique in its arrangement in that subjects have been discussed collectively according to a medical rather than a physical subdivision. This offers decided advantages.

The author takes up electrophysiology, electrodiagnosis and prognosis, and the application of the X-ray. It is carefully prepared, well illustrated and comprehensive.

Hospital Management.—A hand-book for Hospital Trustees, Superintendents, Training School Principals, Physicians, and all who are actively engaged in promoting hospital work.—By Charlotte A. Aikens, Author of "Hospital Training-School Methods and the Head Nurse"; "Primary Studies for Nurses"; "Clinical Studies for Nurses." 12mo. of 488 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $3.00 net.

This little book discusses the management of a hospital from the duties of the board of trustees to buying supplies for the kitchen. It is full of practical suggestions for the management of each department. Its purpose is to bring about a more common system of general management of hospitals. It is worth while for those connected with hospitals to read it.

A Manual of Materia Medica.—By E. Quin Thornton, M. D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Octavo, 525 pages. Cloth, $3.50 net. Lea & Febiger, Philadelphia and New York, 1911.

Dr. Thornton's long experience in teaching has made him especially well adapted to make a book that would meet the needs of the student. He has succeeded admirably well and has produced a work brief, concise and readable, a book that should appeal to the student.

A Text-Book of Surgical Anatomy.—By William Francis Campbell, M. D., Professor of Anatomy at the Long Island College Hospital. Second edition, revised. Octavo of 675 pages, with 319 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net; Half Morocco, $6.50 net.

This work has become so favorably known in the first edition that the second edition needs no comment other than commendation for keeping the book thoroughly up to date.

International Clinics, a Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and Other Topics of Interest to Students and Practitioners.—By Leading Members of the Medical Profession throughout the world. Edited by W. T. Longcope, M. D., Philadelphia, U. S. A., with the collaboration of Wm. Osler, M. D., John H. Musser, M. D., A. McPhedran, M. D., Frank Billings, M. D., Chas. H. Mayo, M. D., Thos. H. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D., Richard Kretz, M. D. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Liepsic, Brussels, and Carlsbad. Vol. I, Twenty-first Series, 1911. Philadelphia and London: J. B. Lippincott Company. Price, $2.00.

This volume of the Clinics maintains its previous record for interesting papers on a large variety of medical and surgical subjects. The list of collaborators includes men of high professional attainment and the volume is of decided value.

Anatomy.—A Manual for Students and Practitioners. —By John F. Little, M. D., of the Jefferson Medical College, Philadelphia. New (2d) edition, enlarged and thoroughly revised. 12 mo, 491 pages, with 75 engravings. *Double number.* Cloth, $1.50 net. *The Medical Epitome Series.* Lea & Febiger, Publishers, Philadelphia and New York, 1911.

This little book was intended to give the more essential parts of anatomy in a clear and easily obtainable way and the author has succeeded in doing this satisfactorily. It is brief but still comprehensive, a useful book for quick reference.

A Manual of Cystoscopy.—By J. Bentley Squier, M. D., Professor of G-U Surgery, New York Post-Graduate Medical School and Hospital; Surgeon to Work House Hospital and Home for Aged and Infirm, Department of Charities and Corrections, New York; Consulting Surgeon, New York Neurological Hospital; Fellow American Association of G-U Surgeons; Fellow New York Academy of Medicine. And Henry G. Bugbee, M. D., Instructor in G-U Surgery, New York Post-Graduate Medical School and Hospital; formerly Surgeon-in-Chief, Vassar Brothers Hospital, Poughkeepsie; Fellow New York Academy of Medicine. With twenty-six original plates, eighteen of which are colored. Octavo, Flexible Leather, $3.00 net. (Sent prepaid on receipt of price). Paul B. Hoeber, Medical Publisher, Bookseller and Importer, 69 East 59th Street, New York, 1911.

This manual is a book designed to give instruction to the beginner. It takes up carefully the instruments used, the technique of cystoscopy, and gives colored plates that show the different bladder conditions. The book seems to fully meet the purpose of the author.

A Text-Book of Physiology: for Medical Students and Physicians.—By William H. Howell, Ph. D., M. D., Professor of Physiology, Johns Hopkins University, Baltimore. Fourth Edition, Revised. Octavo of 1,018 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $4.00 net; Half Morocco, $5.50 net.

This work on physiology has been before physicians and students so long, and has been so well and favorably known, that a general review of the work is unnecessary. This fourth edition includes the results of experimental work in physiology and brings the book up to date. It is an admirable book for students and practitioners.

The Treatment of Fractures: With Notes Upon a Few Common Dislocations.—By Chas. L. Scudder, M. D., Surgeon to the Massachusetts General Hospital. Seventh Edition, Revised and Enlarged. Octavo volume of 708 pages, with 990 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Polished Buckram, $6.00 net; Half Morocco, $7.50 net.

This work on the treatment of fractures is a very attractive book. It is well written, profusely illustrated and gives just what the physician needs in the treatment of fractures. This new edition contains a chapter on operative treatment of fractures which is an added attraction.

Bismuth Paste in Chronic Suppurations, Its Diagnostic Importance and Therapeutic Value.—By Emil G. Beck, M. D., Surgeon to the North Chicago Hospital, Chicago, Ill. With an introduction by Carl Beck, M. D., and a chapter on the application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear, by Joseph C. Beck, M. D. With eighty-one engravings, nine diagrammatic illustrations, and a colored plate. St. Louis: C. V. Mosby Company, 1910. Price, $2.50.

This book is a discussion of the uses of bismuth paste in the diagnosis and treatment of various chronic conditions particularly of chronic sinuses. The book is written in an attractive way, is well illustrated and clearly sets out the claims for this new method of treating these conditions. It would be a valuable book for any one wishing to know the technique of this treatment.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

TREATMENT OF STUTTERING.

E. W. Scripture, New York (*Journal A. M. A.*, April 22), discusses the peculiarities of speech known under the name of stuttering or stammering, to which last designation he objects as superfluous and liable to lead to confusion with the German word stammeln, which means lisping, not stuttering. Laryngeal cramps he says are a never failing symptom and it is not unusual to find a patient who never has another symptom in the presence of a physician than the monotonous laryngeal tone of voice. This fundamental symptom, he says, seems to have escaped all writers on the subject. Cramps and spasms of the muscles of enunciation are the ones most apparent to the observer, and less frequent but more striking, are the contractions of muscles not usually used in speech, such as those of the neck or eye or other parts of the body. An almost constant symptom is excessive rapidity of speech, indicating sometimes, a desire of the stutterer to get his words out before he is caught, or in other cases an expression of nervous anxiety. A never-failing symptom is lack of confidence in the patient's power of speaking correctly and this is sometimes sufficient to make it impossible for him to enunciate certain words. The stutterer is always in fear that his speech may "go back on him." The simplest form of stuttering is that of pure habit, due sometimes at first to imitation, but stuttering almost always goes beyond the habit stage. The curative treatment is based on the principle of correction of the abnormal voice that almost always exists. The patient does not usually stutter when singing or otherwise using his voice in an unusual way and he can be trained to speak in some sort of an odd voice. This is the method of the stammer schools and stutter cures and is not usually permanently effective. The essential point is that the stutterer should feel his acquired speaking voice to be that commonly used by him. There is another way of speaking that is unusual to the stutterer, *i. e.* the way in which normal persons speak, and the therapeutic procedure on this principle therefore will be to teach him to speak normally. The "principle of habit formation" implies that the new way of

speaking is to be drilled into the patient so as to become a habit. The "principle of spontaneity" is requisite because when the patient has learned to speak perfectly he may still be unable to do so when he speaks of his own accord. The "principle of increasing embarrassment arises from the fact that when a patient learns to speak correctly in the presence of his teacher he may not be able to do so in the presence of others." In the beginning his exercises may be made privately but later with a gradually increasing number of strangers. The "principle of correct thinking" is that the abnormal habits of thought which the stutterer always acquires to some extent are to be corrected by appropriate exercises, and the latter part of the paper is given to describing the needed exercises.

THE BUTYRIC ACID TEST.

The diagnostic value of the butyric acid test (Noguchi) in the cerebrospinal fluid is discussed by S. Strouse, Chicago (*Journal A. M. A.*, April 22), on the basis of a study of ninety well diagnosed cases of various disorders, including, besides the syphilitic and parasyphilitic conditions, meningitis, typhoid and pneumonic meningismus, etc. The method of using the test is described as follows: "One part (0.1 or 0.2 c. c.) of cerebrospinal fluid is placed in a test-tube, and to this is added five parts of a 10 per cent. solution of pure butyric acid in physiologic salt solution; the mixture is heated to boiling, and immediately one part of normal sodium hydrate added and the mixture again boiled. In the presence of increased globulin a definite flocculent precipitate occurs, either immediately or within two hours. This definite precipitate must be differentiated from a faint cloudiness which normal fluids may give, but it requires only slight experience to recognize the difference between positive and negative reactions." He remarks that a positive Noguchi reaction does not mean any one disease any more than does a leukocytosis mean pneumonia. If, however, it can be shown that the Noguchi reaction is not present in any of the functional neuroses or psychoses, while it is present in certain organic diseases resembling the neuroses in symptomatology, or if it occurs in tuberculous meningitis and not in the numerous clinical syndromes resembling it in children, its diagnostic value must be recognized, at least from the standpoint of relative usefulness. The conclusions deduced from this study are: "1. Tests for increased globulin in the spinal fluid are easier to perform than is the total cell-count and have practically the same diagnostic importance. 2. The butyric acid test of Noguchi is convenient and accurate. 3. The use of this reaction gives information of considerable value in diagnosis. 4. The reaction is positive in general paralysis and cerebrospinal syphilis; negative in brain tumor, cerebral arteriosclerosis and psychoses. A positive reaction in a doubtful nervous case is presumptive evidence in favor of the diagnosis being a syphilitic or parasyphilitic disease of the nervous system. 5. In tabes dorsalis our results are not in agreement with previous reports, the reaction being present in only 33.33 per cent. 6. The reaction is positive in all cases of acute meningitis and absent in meningeal irritation without actual inflammation. 7. It is always present in tuberculous meningitis, and its presence is an aid in the diagnosis. The absence of the reaction in cases of suspected tuberculous meningitis is of great value in excluding meningitis."

ACUTE GENERAL PERITONITIS.

The history of the modern surgical treatment of acute general peritonitis is reviewed by A. D. Bevan, Chicago (*Journal A. M. A.*, April 22), and the various methods are briefly described. The treatment outlined by Noetzel (*Bruns' Beiträge*, 1905), advocating careful and rapid operation, removal of existing pus with irritation and of the cause of suppuration or closure of any leaks, drainage, stomach washing, rectal injections of normal salt solution, and withholding of morphin if possible, comprises, he says, plus the Fowler position, the modern treatment most generally adopted. About the same time Murphy formulated the technic that goes under his name, which covers the same point in the main, and, in addition, gives the intestines a rest by withholding liquids and foods given by the mouth. He quotes Le Conte, who says that the advocacy and adoption of this method has accomplished a great deal of good. Bevan discusses the treatment under four heads: 1. The saline cathartic treatment advocated by Tait, which is really of value, not for peritonitis, but for one of its common results, paralytic ileus. 2. The rest and starvation treatment of Ochsner, which is of value not in general peritonitis but in local peritonitis, to prevent its becoming general, and also in the management of a case of peritonitis after operation. 3. Blake's operative treatment shows the power of the peritoneum to protect itself against pus infection. 4. The Murphy method, which emphasizes the importance of tubular drainage and condemns irrigation of the peritoneal cavity, insisting, however, on continuous irrigation of the rectum with normal salt solution and the extreme Fowler position, is largely employed in this country, and the remarkable results obtained by Murphy are strong recommendations. He thinks that all these methods have their use in certain cases, and offers a fifth one, which he considers the best combination of all the essentials. He emphasizes the importance of early diagnosis, at least within the first twelve hours, if we are to expect good results from surgical treatment. It is a mistake, he thinks, to operate on patients evidently *in extremis*. The normal anesthetic in proper cases for operation is drop-ether unless the patient is in very bad condition but with no heart lesion, when nitrous oxid should be employed. The first incision should be over the suspected focus and the perforation or leak must be handled so as absolutely to prevent any further leaking. He is very insistent on this point. It is only in extremely difficult cases, in which the incision and insertion of a drain is all the patient can endure, that any exception to this can be made. Another most important thing is the ascertaining whether the peritonitis is local or general, and he uses for this a female glass catheter. If there is free pus widely disseminated he believes in its removal by irrigation. Rubber tubes, he says, should never be used for drainage, at least unprotected ones. Cigarette drains he considers much to be preferred, and the dressing should be moist, not wet, with hot boric acid solution, and should be changed at intervals of from six to twelve hours, according to the amount of discharge. The Fowler position, while of much value, has, he thinks, been used sometimes to the discomfort and disadvantage of the patient. All the possible benefit, he thinks, can be obtained by elevating the head of the bed from eighteen to twenty inches and placing a bolster, attached on both sides to the head of the bed, below the buttocks to prevent the patient from

sliding. Continuous irrigation by the bowel he also thinks has been overdone, though we all acknowledge the value of copious rectal irrigation. This can be obtained as well by interrupted injections—from six to sixteen ounces—of normal salt solution every two to four hours, to be retained, and a cleansing enema once or twice a day. If repeated vomiting occurs the stomach should be washed out, but care should be taken to avoid development of acute dilatation of the stomach. If vomiting is lacking or is slight, small amounts of water may be given by the mouth and, if conditions improve, in larger quantities, with a corresponding decrease in the rectal amount. Morphin is to be avoided if possible, but in some cases it is of use. He mentions the complication of paralytic ileus, which he combats by small repeated doses of castor oil.

RUPTURE OF THE KIDNEY.

F. Gregory Connell, Oshkosh, Wis. (*Journal A. M. A.*, March 25), reports a case of simple subparietal rupture of the left kidney in a boy of 11, caused by a fall from a bicycle against a street curbing. He was able to walk home but suffered severe pain later and passed bloody urine, and still later vomited, both acts being attended by some relief of the pain. There were rigidity and tenderness in the lumbar region and the second day, symptoms becoming more threatening, an operation was consented to by the parents. Incision was made in the lumbar region and the hemorrhage within the fatty capsule was observable. Incision freed considerable blood and many clots. There was a stellate tear extending into the pelvis. The wounds of the kidney were sutured, after cleansing by deep sutures. The fibrous capsule could not be completely sutured. A cigarette drain was inserted and the wound otherwise closed. Recovery was uneventful. Connell reviews the literature, etiology, symptomatology and diagnosis of the condition and gives abstracts of some recent cases reported. His conclusions are summed up as follows: "1. Owing to the rapid recent increase in the number of reported cases there is reason to believe that subparietal rupture of the kidney is more frequent than the literature would lead one to believe. 2. Shock, injury to other organs and external evidence of trauma are frequently absent. 3. A history of an abdominal contusion, followed by rigidity and hematuria, is sufficient data to lead to an exposure of the organ. 4. Slight lesions and complete rupture of the kidney cannot be differentiated by clinical signs or symptoms. 5. Proof that there is an absence of serious rupture is called for before instituting the so-called expectant treatment. 6. Nephrectomy should be reserved for very extensive disintegration of the organ. 7. Conservative treatment, preferably by suture, is indicated in the majority of cases." Connell emphasizes the risk of kidney rupture and the difficulty of differentiating serious from trivial injury, and thinks it best to treat all cases as serious until they can be proved otherwise.

A SIMPLIFIED STAINING METHOD.

L. S. Medalia, Boston (*Journal A. M. A.*, April 22), says that he has employed for the last four years with great satisfaction a simplified staining method in place of Loeffler's methylene-blue for replacing Leishman's or Wright's blood-stain and in the staining of capsulated bacteria. It requires no saturated alcoholic solution nor the troublesome "1 to 10,000" aqueous solution of caustic potash needed in Loeffler's methylene-blue solution, is easily prepared in a few minutes by any physician or druggist and keeps indefinitely. It may be necessary to add a few crystals of sodium carbonate from time to time to counteract the acidity of the fixative corrosive sublimate. The solutions are: 1. Saturated aqueous solution of corrosive sublimate as a fixative. 2. Aqueous methylene-blue solution prepared as follows: ℞ Methylene-blue (medicinally pure), 1 gm.; sodium carbonate, H. P., 1 gm.; water, 100 gm. The dye and sodium carbonate are thoroughly dissolved in the water by shaking. The solutions are best kept in bottles wide mouthed enough to insert slides of cover-glasses, and stoppered. In staining single preparations the smear is made on a slide and dried in the air, then fixed in the corrosive sublimate solution for from ten to twenty seconds. It is then washed in running water and stained with the methylene-blue solution by immersion for from two to five minutes, then washed thoroughly in running water and drained between filter papers. A number of preparations can be made at one time by putting the smears in a glass slide-box and then using the separate washings and solutions in sequence. He has found the method very useful in staining specimens for the opsonic count of bacteria other than the tubercle bacillus, and in staining capsulated bacteria, the capsules showing up very distinctly, stained pale blue, while the bacteria are stained deep blue. It can be used in every case where Loeffler's methylene-blue would be used and has all the advantages of the latter minus the disadvantage of heat fixation. He says: "Finally, because of the ease with which this staining solution is prepared, the cleanliness with which it can be handled, and its advantage of requiring no Bunsen burner or flame of any sort, it is hoped that this method of staining will be of help to the clinical man in keeping up bacteriologic examinations in his office in the routine of his daily practice, without having to resort to a fully equipped laboratory for that purpose."

TONSILLECTOMY.

According to J. E. Rhodes, Chicago (*Journal A. M. A.*, March 25), the mechanical obstruction to breathing is the least important of the considerations favoring tonsillectomy and adenectomy. This must be often for symptoms not connected directly with the nose and throat, and rheumatism, myocarditis, arthritis, etc., are often conditions which can be traced to a primary focus in the tonsillar ring. It is easy to recognize hypertrophied faucial tonsils, but the embedded form is often overlooked by the practitioner until the infective results of their disease has already been brought about. They are the tonsils, too, for which inadequate operations are so often performed. He describes his own method rather elaborately. In infants ether is always used, as a general anesthetic is necessary. The most important step in his technic is the enucleation of the tonsil, which is accomplished by the use of a sharp knife, bent on the flat, cutting from above downward behind the anterior pillar, and in children he always cuts through the plica triangularis, though this may sometimes be saved in the adult. Then the velar lobe may be freed from its attachments to the posterior pillar in the upper angle in the same way, but this is not often necessary in

the child. A hooked knife may sometimes be needed for freeing the upper angles. After these attachments have been properly freed, the tonsil is enucleated with the surgically clean finger. This complete enucleation is the most important part of the operation. The tonsil is then seized with the Ingals' tonsil forceps and drawn inward with slight force. A wire loop is carried over the handles of the forceps and the tonsil is cut off with the snare. This is easy in infants, but more difficult in older children and adults in whom more force must be used and more slowly. The lower tonsil, the left, is first removed, and then the right. Hemorrhage must be controlled before the adenoids are attacked. After the operation, the child is put in bed for a few hours, a light diet is recommended for four days, and the patient is kept in the house for a week. A gargle of 1 per cent. phenol solution may be used for two or three days, every hour and less frequently afterward. In adults, local anesthesia may be employed, but absolute freedom from pain and discomfort cannot be assured. Rhodes uses local applications of cocain, but a small amount of epinephrin solution may be also used. The 1 to 1,000 solution may be used. He thinks better results are obtained if the plica triangularis is removed. As soon as the velar is free the remainder of the separation can be done with the Freer flat knives, avoiding any removal of the underlying muscular tissue. While the technic, he says, is somewhat difficult at first, it can be acquired and the painstaking care it requires will be justified by results.

ANATOMICAL PREPARATIONS.

E. Souchon, New Orleans (*Journal A. M. A.*, March 25), supplements his earlier paper in *The Journal* (Aug. 22, 1908, p. 642), with additional particulars as to the preservation of anatomic preparations with the natural colors and appearance. He insists on the use of only lean male subjects and there are cadavers whose muscles are of a dark color before being embalmed. If the muscles show a black cherry color the preparation will be satisfactory. Those of a deep red cherry color are not so certain and a light red cherry color wil not be satisfactory in the preparation and cannot be made so by any subsequent procedure. As a rule, negroes have blacker muscles than whites. It took him considerable time, he says, to learn these facts. The steps of the method which he has found to give the best results are given in detail.

IONIC SURGERY.

A case of extensive vulvar epithelioma and one of recurrent growth of the meatus urinarius treated by ionic surgery is reported by G. B. Massey, Philadelphia (*Journal A. M. A.*, March 25). In the first case a major monopolar application of zinc-mercury ions was made with a current of from 1,000 to 1,200 milliamperes for one hour. The application was accomplished by the ionic dissolution of sixteen zinc needles, each heavily coated with quicksilver, and inserted in the periphery of the growth. The needles were connected with the positive pole of the direct current, the negative being a large kaolin pad under the patient's back. On separation of the large mass of sterilized tissue two weeks later, an immense cloaca-like opening was revealed in which all three pelvic outlets coalesced. Four months after operation this had been partially filled by healthy scar tissue and this was still further relieved by a plastic operation, leaving only the discomfort from the partial lack of the rectal sphincter permitting the escape of flatus and of very loose feces. In the second case the patient was similarly treated, and it is of interest because of the difficulty of diagnosis, its appearance when first seen being that of a typical caruncle.

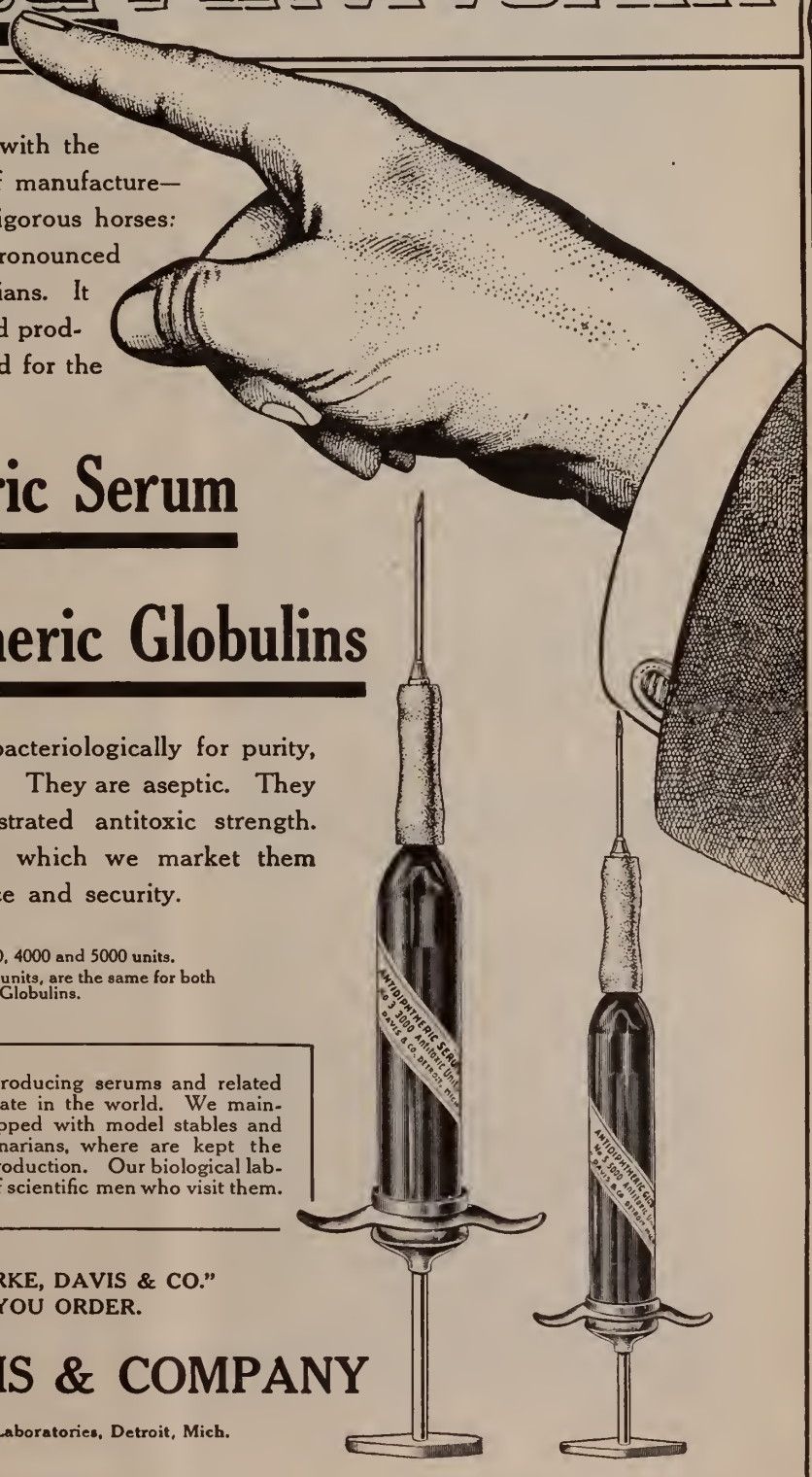
CANCER OF THE CERVIX.

Palmer Findley, Omaha (*Journal A. M. A.*, April 22), holds that too little interest is taken in relieving cancer of the cervix which is not amenable to surgical relief. One cannot, he says, review the literature on the treatment of inoperable cancer of the cervix without being strengthened in one's conviction that much can be done in these pitiable cases. We cannot cure these patients, but we can relieve suffering and give them added days of comfort and usefulness. He goes over the testimony of authorities on the subject and says that the curette and cautery are still in use, and he is not disposed to discard them. They have proved a positive value in his hands. For the past six years he has followed the practice of Dr. J. Clarence Webster in packing the excochleated and cauterized area with gauze wrung out of a 1 to 4,000 aqueous solution of 40 per cent. liquor formaldehyd, and following such a procedure, he says bloody and odorous discharges have disappeared for from two to four months. He quotes Gellhorn's description of his acetone treatment and believes that we have in this a valuable remedy in inoperable cervical cancer. As yet no remedy has been able to destroy the invading cancer cells, but he believes that a vaccine will be forthcoming that will do more than palliate this dread disease.

BRAIN TUMORS.

L. Newmark, H. B. A. Kugeler and H. M. Sherman, San Francisco (*Journal A. M. A.*, April 22), report a case of cerebellar tumor with rather puzzling symptoms in which the patient was greatly benefited by puncture over the cerebellum on both sides, made for diagnostic purposes. The symptoms continuing, however, operation was performed, but revealed no tumor; this, however, was found by enlarging the opening on the left side. A noteworthy point was the non-recurrence of papillitis with the return of the other symptoms after their disappearance with the diagnostic puncture. The skull was very much thinned, which was probably due to pressure, and another feature of the case was the facial anesthesia of the right upper lip, which might delude one as to the site of the tumor. They also report a case of endothelioma of the dura mater where the subjective symptoms indicated an occipital growth. The tumor was found in the prefrontal region. The first operation revealed only a growth of bone, which was removed, and the patient's symptoms were greatly relieved. There was, however, a marked swelling or protuberance on the forehead in the left frontal region, which was removed by operation and found to be an endothelioma of the dura with good result. The same results were obtained in the other case.

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THERAPEUTIC NOTES.

An Important Move to Insure Physiologically Active Ergot and Digitalis.—The H. K. Mulford Company have again demonstrated their scientifically progressive policy in announcing that from this time, special labels with the date on which all Fluid Preparations of Ergot and Digitalis were physiologically tested and approved by their laboratories, will be placed upon each package.

We have become accustomed to seeing the date of manufacture on the labels of Serums, Vaccines, Bacterins, etc., and it is not surprising to see this progressive firm take the lead in placing *dated Galenicals* on the market. The new dating system will be applied however only to the liquid Preparations of those two of the most important of our vegetable drugs, Ergot and Digitalis, which are particularly prone to deterioration.

There is no necessity for placing the date of assay on most Galenicals, for fortunately most of them are quite stable when care is used in their storage. Coca is an exception, it is true, but little Coca is used or should be used for its active principle, and hence it can be declared that *most Galenicals* are quite stable.

In the case of Fluid Preparations of Digitalis and Ergot, particularly the latter which is so often employed as an emergency remedy, it is not right that the physician should be subjected to the *possibility* of employing an old, and perhaps weaker product. Because of the *possibility* of their deterioration, the H. K. Mulford Company proposes to safeguard pharmacist, physician and patient, by making it possible for the physician to prescribe and the pharmacist to dispense only preparations of Digitalis and Ergot which have recently been tested and standardized—pysiologically and chemically.

For this advanced step, the H. K. Mulford Company deserves great credit, for they not only place the date of test on each package, but they recommend the purchase of quantities to supply the pharmacist's needs for not longer than six months. They cannot do more, for no one can tell how long those preparations will keep. Preparations two or three years old have been tested and found entirely satisfactory for use, and on the other hand a considerable deterioration has occurred in less than one year. Liquid preparations of these drugs should remain satisfactorily active, however, for at least a year if they are kept in a cool place, protected from the light.

Antidiphtheric Serum and Globulins.—In their current announcements to the medical profession it is noted that Parke, Davis & Co. give equal prominence to their antidiphtheric serum, which they have produced unchanged for many years, and the newer "globulins," which they have been marketing for a number of seasons.

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External Eye Diseases.—The most frequent forms of diseases of the eye are those located in the mucous membrane of the eyelids, (conjunctiva). When left alone they are not only a source of annoyance and suffering but often endanger the sight. The frequency of these external affections of the eye has made their treatment one of the richest mines for quacks from the oldest times. All general practitioners of medicine are frequently called upon to treat these diseases, which they can do successfully with perfect safety, and not be under the necessity of sending their patients to the oculist. It will be readily recognized from the formula of Palpebrine that it is composed of ingredients of no untried remedies, but of such as are entirely reliable in the treatment of all external eye diseases. No detrimental effects can come from its use ad liberatum. Palpebrine is superior in its action to the remedies now in use. It contains all the constituents of Aqua Conradi, which is recommended by the renowned professor of the Vienna University, Ferdinand von Arlt. (See Clinical Studies on Diseases of the Eye, by F. Ritter von Arlt, translated by L. Ware, page 23).

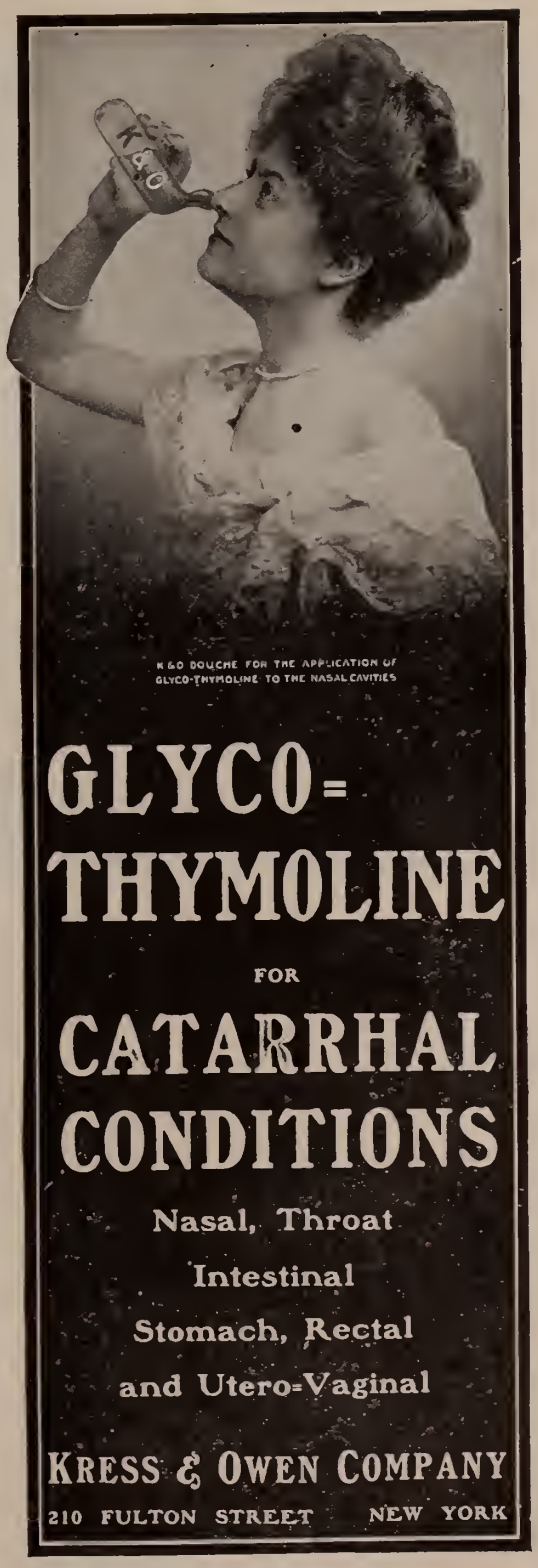
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Cord. Ext. Ol. Morrhuae Comp. (Hagee) may be profitably employed as a routine reconstructive after pneumonia, there being no more definite indications for its use than in the convalescence following acute lung and bronchial disorders.

Right-Sided Abdominal Pain in Women.

In discussing this subject the author points out that the cecum often complicates the diagnosis in cases where this type of pain is present. The cecum often lies in the true pelvis, especially in women who have borne children, and it is by no means uncommon to find the pelvis entirely occupied by a cecum distended with gas, such a condition of this organ rendering it often



a source of vague pain. A case of this kind is referred to by the writer, in which an indefinite swelling, supposed to be an ovarian cyst, could be felt in the right iliac fossa. On percussion, however, it yielded a high resonant note. The patient being in acute pain, it was decided to incise the abdomen, when the swelling was found to be due to an enormous accumulation of gas in the cecum, the pressure being so great as to cause the peritoneal coat to split in two places. The cecum had partially twisted on its axis. The gas was evacuated through a puncture, the edges of the small opening being tacked to the margins of the incision as a safeguard, and an admirable and permanent recovery resulted.

An important form of pain in the right flank is associated with a painful anal fistula. The pain during defecation in the presence of the latter condition often causes patients to avoid this act as much as possible, and occasionally the spasmodic action of the sphincter so interferes with the regular emptying of the bowel that the colon and cecum become abnormally distended. In these cases the more or less constant pain in the right flank has led the practitioner to attribute it to ovaritis, appendicitis, and in older women to cancer. In many cases the author has found chronic right-sided pain associated with a painful anal fistula to be cured by dilating the sphincter under an anesthetic, and then clearing out the bowels with a dose of castor oil.

Some of the most misleading cases are those in which young women have been treated for indigestion supposed to depend on a chronic ulcer of the stomach when the appendix has been the cause. When gastric symptoms are sufficiently severe to warrant an operation and the surgeon finds the stomach normal on inspection, it is his duty to examine the vermiform appendix and he will often find it abnormal. Its removal in such a case will more certainly give relief than the gastrojejunostomy formerly recommended.

In dealing with persistent right-sided abdominal pain, where it is impossible after careful clinical examination to decide which organ is at fault, and the patient's condition is such as to justify operative interference, it has been the author's custom to make a fairly free incision in the line of the right linea semilunaris and systematically examine the organs on the right side of the abdomen. This incision allows of examining the pelvic organs, including the ureters, cecum, appendix, kidney, gall-bladder and ducts, pancreas, duodenum, pylorus, and liver. It also has the advantage of permitting the surgeon to deal with conditions requiring surgical treatment in almost any of the organs mentioned. It occasionally happened that nothing could be seen to account for the pain, and in a few cases some unexpected pathological conditions were found. Occasionally an operation revealed the presence of serious and painful disease in young women who had been treated as hysterical by their parents and physician.—Bland-Sutton, in *The London Practitioner.—Charlotte Med. Journal.*

Treatment of Mastoid Inflammations.

The earache of mastoid disease is best treated by free catharsis, free incision of the membrana tympani, and warm boric acid irrigations (saturated). Hot poultices, compresses and fomentations are undesirable; they tend to cause diffuse suppuration. Rupture should be anticipated by incision. Baked onion hearts, laudanum and sweet oil are mentioned only to condemn. The treatment of acute mastoiditis is essentially operative.

In chronic running ears cleanliness is the first object to be accomplished. Warm saturated boric acid solution irrigations are best for this. Peroxide of hydrogen is to be condemned, for a large number of mastoid inflammations are caused by this drug.—George H. Rockwell, M. D., in *New York State Journal of Medicine,* February, 1911.—*Therapeutic Med.*

To Abort Pneumonia.

Reid believes that pneumonia can be aborted if free and continuous diaphoresis can be set up in the congestive stage. Even in the second stage it does good, limiting the exudative process, eliminating carbonic acid and toxins, and increasing metabolism. Of course it reduces temperature. Hot packs or warm sponging are employed in adults and mustard baths in children. Sodium salicylate, in 15 or 20 grain doses, is given every four hours. In place of the salicylate he has sometimes used acetphenetidin in ten grain doses every four hours. The administration of these drugs must be carefully guided by

the temperature fall. The usual stimulants are given. Reid has noted especially under this method of treatment the absence of cerebral symptoms. It would seem essential to keep up the diaphoresis once it has been started since Reid has noted fatal termination in cases where the sweating was interrupted and in which it could not be instituted.—G. M. Reid, in *Australian Medical Journal,* December, 1910.

Sensibility of the Peritoneum and Viscera.—J. F. Mitchell of Washington, D. C., discusses the sensibilities of the peritoneum and abdominal viscera. It was Lennander, he says, who in 1901 first called attention forcibly to the fact that there is a distinct and constant contrast in the parietal and visceral peritoneum. The parietal peritoneum is extremely sensitive to pain, but not to heat or cold, while the abdominal viscera possess no sense of pain; in other words, the visceral peritoneum and abdominal organs, innervated only by the vagus or sympathetic nerve, are not sensitive to pain, and painful abdominal sensations are transmitted only by the phrenic, the lower six intercostals and the lumbar and sacral nerves which supply the parietal peritoneum. For the mesentery, his findings are not absolute, though he considers it also insensitive. Pain in the abdominal organs is felt through irritation of the parietal peritoneum, mechanical, chemical or infectious. Surgeons have largely accepted Lennander's view, while some others have opposed them. Mitchell reviews the investigations on this subject, including his own observations, and reports several cases observed by him which are, he says, represented in the records by numerous similar cases which seem to offer evidence of a definite contrast in the sensibility of the parietal and visceral peritoneum in the unopened abdomen of man. It has been his custom for the last few years to write down the findings before operation and make also a written prediction as to what was to be expected on opening the abdomen. A comparison of these predictions with the operative findings has given him interesting results supporting his views. Many referred pains are explainable by the relation of the involved organs to the parietal peritoneum. Two cases in which he had opened the abdomen in men without the use of any anesthetic and observed the same contrast between parietal and visceral peritoneum as when cocain was used, were reported by him in *"Jour. A. M. A.,"* 1907, xlix. 198. Without denying the use of animal experimentation, he insists that its results cannot outweigh the mass of surgical evidence on this particular point. While agreeing with Nystroem that there are some weak points in Lennander's hypotheses, they appear to give a more reasonable explanation of abdominal pain than does the theory depending on an imaginary pain-carrying power of the sympathetic nerve.—*Jour. A. M. A.,* Aug. 26, 1911.



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ACCESSORY THYROIDS.—C. H. Mayo, of Rochester, Minn., describes the development of the thyroid, showing how accessory thyroid bodies can be produced. Anomalies of the lower portion of the gland are fairly common. Lateral aberrant thyroids are much less frequent while small accessory and aberrant thyroids between the hyoid and isthmus of the thyroid are relatively common. Mayo has seen but three lingual thyroids, one of them showing both types of lingual and sublingual. It is interesting, he says, to note in corroboration of the view that the bulk if not all of the thyroid has developed from the pharyngeal anlage, that in approximately one in seven of the patients operated on for lingual thyroids develop myxedema. Some cases probably were reported too soon after operation to give accurate information as to this point and in others only the cystic portion had been removed, leaving still a remnant of active thyroids. Mayo thinks that a very careful examination of the thyroid region should be made before operating on lingual thyroid so that a less extensive removal can be made if there is no palpable thyroid. It is very probable that stray portions of the thyroid are of frequent occurrence and unrecognized for the lack of pathological symptoms. In the diagnosis the suprahyoid or midline tumors must be differentiated from malignant disease of the glands of undiscoverable primary origin, from thyroglossal duct cysts, from dermoids, ranula, lingual tonsils, etc. In some cases this will be determined only by operation. Free hemorrhage has been noted as a symptom. The slowness of the growth considering the richness of the blood-supply usually excludes malignancy. Angiomas are differ-

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entiated by being more spongy, irregular in outline, of purple color and usually showing greenish extensions to lateral pharyngeal areas. "In the enucleation of lingual thyroids the tongue and pharyngeal areas are cocainized, the patient anesthetized with ether and a rapid operation made while the tongue is held in extreme tension. The free hemorrhage is controlled by deep sutures. In very extensive superior lingual goiter it may occasionally be advisable to ligate the lingual arteries and make a laryngotomy as a preliminary procedure. It will rarely be necessary to divide and separate the lower jaw. While the operations for the removal of lingual thyroids through the mouth have been quite bloody, they have been successful; practically no fatalities have been reported. Although there have been approximately but fifty cases recorded, undoubtedly there have been many others in which patients have been operated on." His three personal observations are reported.—*Jour. A. M. A.*, Sept. 2, 1911.

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